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Farmers Markets and The Emergency Food System in West Virginia:  
An analysis of intersection to improve community food security

Jessica L. Crum

Thesis submitted  
to the Davis College of Agriculture, Natural Resources, and Design  
at West Virginia University

in partial fulfillment of the requirements for the degree of

Master of Science in  
Agricultural and Resource Economics

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Agricultural and Resource Economics Program  
Division of Resource Management

Morgantown, West Virginia  
2015

Keywords: [food security, farmers markets, emergency food system]  
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The Appalachian Foodshed Project, which paid for this study is funded through  
the USDA's Agriculture, Food and Research Initiative (AFRI) grants program.  
Award Number: 2011-68004-30079.

## **Abstract**

Farmers Markets and the Emergency Food System in West Virginia:  
An analysis of intersection to improve community food security

Jessica Crum

Food insecurity is a problem in West Virginia. Individuals who are food insecure rely on assistance from private organizations, such as food pantries and soup kitchens. Individuals may also rely on government assistance, with programs like SNAP and WIC, as a means to cope with food insecurity. Farmers markets have been trying to become more accessible to low-income individuals and increase community food security through the acceptance of SNAP, WIC, and SMFNP vouchers. This study uses key informant interviews to understand to what extent and in what ways farmers markets are interacting with emergency food systems to improve community food security through other avenues, such as gleaning programs. Results show that well-established markets are better able to connect with the emergency food system through gleaning programs, however, there are few “well-established” markets in West Virginia. More research and outreach through grassroots and non-profit organizations will help to improve and create more successful well-established markets in West Virginia that are able to work with the emergency food system to improve community food security.

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## **Chapter 1: Introduction and Background**

### **Food Insecurity**

A food insecure household is one that, at times during the year, has limited access to adequate nutrition due to lack of money or other resources (Coleman-Jensen et al., 2014). In 2001, 10.7 percent of U.S. households were food insecure (Smith and Coleman-Jensen, 2014). In 2007, the percentage of households that were food insecure was 11.1 percent (Smith and Coleman-Jensen, 2014). From 2001 to 2007 there was only a 0.4 percent increase in household food insecurity in the United States. However, after the “Great Recession” in 2008 the prevalence of food insecurity increased to 14.6 percent of households (Smith and Coleman-Jensen, 2014). That number has stayed relatively the same since 2008 and shows no signs of returning to its pre-recession numbers. Today an estimated 14.3 percent, or approximately 17.5 million American households, were food insecure at some point during the year of 2013; in 2012 this was 14.5 percent and 14.9 in 2011 (Coleman-Jensen et al., 2014). In West Virginia, 14.4 percent of households were considered food insecure in 2013 (Coleman-Jensen et al., 2014).

As food insecurity has become more prevalent since 2008, more research has been completed in order to understand the impacts associated with this problem. In addition, several studies have indicated that food insecurity is higher in May, June, July and August (Nord and Romig, 2006; FNS F). Food insecurity is linked with numerous long-term health outcomes including diabetes, depression and anxiety in adults, obesity, poor mental health status, and lower levels of academic success and elevated anxiety and hostility among children (Martin et al., 2013). Parents of food insecure households serve fruits and vegetables less often than food-secure parents (Martin et al., 2013). In

addition, food insecure head-of-households were two to four times more likely to report barriers to accessing fruits and vegetables (Bruening et al., 2012). So, one may ask, why are food insecure households reporting barriers to accessing fruits and vegetables (Martin et al., 2013; Bruening et al., 2012)? One answer to this question is that calories are less expensive for unhealthy, calorie-rich foods (Martin et al., 2013; Bruening et al., 2012). Thus, food-insecure households may be making less healthful decisions to make their food dollar stretch (Martin et al., 2013; Bruening et al., 2012).

### **Hunger and Hunger-Related Issues**

Hunger is defined as the inability to acquire enough food to meet dietary energy requirements and is synonymous with chronic undernourishment (Arrows for Change, 2014). Similarly, Nestle (1999) defines hunger as, “the unpleasant sensation that results from the lack of sufficient food, and malnutrition is the long-term physiological or cognitive consequence of insufficient food intake.” Based on these definitions hunger and food security are not one and the same. Hunger is a symptom of food insecurity (TFBN, 2015; Shoaf et al., 2012). Food insecurity is a much broader term that captures hunger and the coping mechanisms that households use to avoid hunger (TFBN, 2015; Shoaf et al., 2012).

Hunger has been known for all of human history; however, it was especially a problem in the nineteenth century with an increase in famines and urbanization in Great Britain (Vernon, 2007). It is during this time that Great Britain frames the problem as “social,” thus, disembedding it from political and economic spheres of change (Carolan, 2013). During this time people viewed hunger as a moral sentence of sorts (Vernon, 2007). That is to say, those who were hungry deserved it in some way. One of the first



milestones for food security was when the hungry became viewed as victims (Vernon, 2007). This milestone demonstrates a change from the Malthus theory of hunger (God's punishment for overpopulation) to a more humanitarian view of hunger (Vernon, 2007).

Food security began to emerge as a concept in 1940 in the United States, during the rise of planned food systems (Vernon, 2007). A planned food system was thought to be the answer to end all hunger. Foods, such as corn and soybeans, would be produced in mass quantities, thus there would be more than enough calories for everyone (Carolan, 2013; Vernon, 2007). Having adequate caloric intake does not necessarily mean that the calories consumed are nutritious and will provide nourishment to the body (Vernon, 2007), and cheap food produced by this food system does not equate to increased food security (Carolan, 2013). In fact, this cheap food is believed to be a part of an increase in health issues such as obesity and diabetes now linked to the problem of hunger and food insecurity (Carolan, 2013).

### **Emergency Food System**

The emergency food system is comprised of private organizations, such as food pantries and soup kitchens with some federal support (Tiehen, 2002). This network operates to provide food to food-insecure individuals. Public assistance programs include programs like SNAP and WIC, while private assistance programs include food banks, pantries, and soup kitchens.

### **Public Assistance Programs**

Public and private food assistance programs have emerged in abundance in response to food insecurity in the United States. The Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and

Children (WIC) are some of the largest federal responses to food insecurity, in terms of dollar amount and number of individuals served (Martin et al., 2013; Hanson, 2012; Biggerstaff et al., 2002).

SNAP, formally known as the Food Stamp Program, began its modern form in 1961, however, its origins date back to the 1930s (FNS B, 2014). The goal of the program is to help low-income households obtain a more nutritious diet (FNS B, 2014). The program provides monthly benefits to eligible low-income families, which can be used to purchase food (FNS B, 2014). Monthly benefits are loaded onto an electronic benefit transfer (EBT) card and operate much like debit card systems (FNS B, 2014). Recipients access their benefits to pay for eligible food items (FNS B, 2014). The federal government pays the full cost of the benefits and shares the responsibility and costs of administering the program with states (GAO, 2014). The U.S. Department of Agriculture's Food and Nutrition Service (FNS) is responsible for publicizing program regulations and making certain that states comply with these regulations by issuing direction and supervising their activity (GAO, 2014).

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides supplemental, nutritious foods, nutrition education and counseling at WIC clinics, and screening and referrals to other health, welfare, and social services to pregnant women (through pregnancy and up to 6 months postpartum), breastfeeding women (up to the infant's first birthday), non-breast feeding women (up to 6 months after the birth of an infant or after pregnancy ends), infants (up to the first birthday), and children (up to their fifth birthday) (FNS B, 2014).

WIC is a federal grant program, where Congress authorizes a specific amount of funds each year for the operation of the program (FNS B, 2014). The Food and Nutrition Service, which administers the program at the federal level, provides funding to the WIC state agencies to pay for WIC authorized foods, nutrition education, breastfeeding promotion and support, and administrative costs (FNS B, 2014). Although there are three methods used to deliver food benefits to recipients, the retail purchase method is the predominant food delivery system used among state agencies (FNS B, 2014). In the retail purchase method, participants use an EBT card to purchase foods from authorized retail outlets, grocery stores, and pharmacies (FNS B, 2014).

In 2014, the federal government provided \$74 billion dollars in SNAP benefits to approximately 46,674,000 recipients and \$6 billion dollars in WIC benefits to approximately 8,287,000 recipients (FNS A, 2014; FNS D 2015; FNS E 2015). A total of \$80 billion was spent on the approximately 55 million recipients. In West Virginia 362,501 individuals out of 1,850,326 living in the state (19.5%) received SNAP, and 43,214 individuals received WIC benefits (FNS E; FNS F). SNAP and WIC participants are considered to be part of the food insecure proportion of the population.

### **Private Assistance Programs**

Although there are government programs that help families obtain food, this is often insufficient to meet their food needs and prevent food insecurity. The “emergency food system” has sprung up to meet the needs of the food insecure. Most of the food distributed by food pantries and emergency kitchens comes from local resources like food banks (Coleman-Jensen et al., 2014; Companion, 2010).

The emergency food system is a structured food system, where food pantries and emergency kitchens (soup kitchens) are direct providers and food banks are wholesalers (Coleman-Jensen, 2014; Tiehen, 2002). Food banks acquire mostly nonperishable foods nationally and regionally and distribute them to direct providers (Tiehen, 2002). Food pantries receive food from food banks and distribute groceries for households to prepare at home (Tiehen, 2002). Emergency kitchens provide prepared meals for patrons to eat at the location (Tiehen, 2002).

In the past, food pantries were created to provide emergency food in times of catastrophe, however, many households rely on them as long-term life lines (Martin et al., 2013; Tiehen, 2002; Biggerstaff et al., 2002). In 2000, the last year for which nationally representative statistics are available, there were an estimated 32,737 food pantries and 5,262 emergency kitchens in the United States (Tiehen, 2002). More pantries and soup kitchens exist today than in 2000, to better respond to the increase in food insecurity (Jackelen, 2013).

The role of food banks as an instrument for the removal of unsalable food products has direct repercussions for the food aid they provide (Tarasuk and Eakin, 2005). Numerous studies have found the poor quality and limited quantity of nutritional food items received by patrons at food pantries have adverse health effects (Companion, 2010; Brown, 2007; Kirkpatrick and Tarasuk, 2008; Drewnowski, 2007; Ricciuto and Tarasuk, 2007).

WV Foodlink (2015) is a project of the Food Justice Laboratory at West Virginia University. WV FoodLink serves as an information center, forum and interactive atlas for program directors, social workers, policy makers, and West Virginia residents. Their

most recent data show that there are 339 food pantries and 123 hot meal programs in West Virginia. Currently, WV FoodLink does not distinguish between soup kitchens that are open to the public and meal programs at private rehabilitation centers and daycares. These counts reflect only agencies that receive food from at least one of the two food banks located in West Virginia (Facing Hunger Food Bank and Mountaineer Food Bank), therefore some agencies may not be in their database.

### **Community Food Security**

Community food security is defined as “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice” (Pothukuchi et al., 2002, p. 5). Successful community food security relies on connections across and assimilation of diverse fields, including community development, economic development, health and nutrition, anti-hunger, food access, social justice, environment and agriculture (AFP, 2015; Pothukuchi et al., 2002). The movement encompasses a wide range of individuals from varying fields to work on and communicate about diverse issues (Pothukuchi et al., 2002).

While many individuals with differing backgrounds and perspectives are brought into this conversation, they all keep the same goals in mind (Pothukuchi, 2002). The goals of community food security include,

to support access to food as a basic human right for all, to eliminate hunger and food insecurity, to build more local and regional food self-reliance and thriving local economies, to create more democratic food systems that give communities a greater role in deciding how their food is produced and distributed, to make the food system more equitable and socially just, to develop environmentally sustainable food production and distribution systems, to teach young people skills in food production, and

to connect them to other community issues through food, and to preserve and celebrate diverse cultures through food” (Pothukuchi, pg.5, 2002).

Community food security is different than just giving households money to buy food or just giving food to people who do not have enough. This concept stresses the importance of food access at a community level (Pothukuchi, 2002), for example, by advocating for direct links between local farms and consumers, e.g. farmers markets. Overall, this movement emphasizes the importance of who is controlling the food system. Local communities should have a say in the food from production to consumption and everything in between (Pothukuchi, 2002).

### **Gleaning**

Gleaning offers another route by which farmers and farmers markets can intersect with low-income populations. The Let’s Glean! United We Serve toolkit defines gleaning as, “the act of collecting excess fresh foods from farms, gardens, farmers markets, grocers, restaurants, state/county fairs, or any other sources in order to provide it to those in need” (USDA, pg.2, n.d.). Gleaning is an excellent solution to the issue of food waste and dates back to biblical times (Hampl et al., 2004). It was estimated in the United States in 2010 that approximately 133 billion pounds of food available for human consumption was not eaten, twenty-five billion pounds of vegetables and eighteen billion pounds of fruits (Buzby et al., 2014). Gleaning boosts food security and is an important element of sustainable agriculture by preserving resources, improving environmental quality (through reducing waste) and providing basic human nutritional needs (Hampl et al., 2004).

Historically, farmers were encouraged to leave produce in the fields for the poor or travelers to glean (Hampl et al., 2004). Recovery of unsold fruits and vegetables at

farmers markets should not be left out of this equation. Today, gleaning takes place after commercial picks, usually by nonprofit organizations, and food is directed to the emergency food system (Hampl et al., 2004; Hoisington et al., 2001). Furthermore, food recovery organizations and for-profit wholesalers act as gleaners by donating food from manufacturers, wholesalers, grocers, and restaurants (Hampl et al., 2004).

## **Farmers Markets**

### **Farmers Markets and the Local Food Movement.**

Farmers markets have become especially popular in the last decade. Much of the growth with farmers markets around the United States is led by growth in the local foods movement (King et al., 2014; Martinez et al., 2010). The number of farmers markets listed in the U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS) directory has increased 74 percent since 2009, with an annual increase of 3.6 percent from 2012 to 2013 (King et al., 2014). In West Virginia there are 90 farmers markets (WVFMA, 2014). It should be noted that farmers markets still represent only a small portion of the food system but are the only part of the food system analyzed in this study.

Local food is defined as food that is produced, processed, and distributed within a particular geographic boundary that consumers correlate with their communities (Martinez et al., 2010). The local food movement stresses values in health and nutrition, as well as food access (Martinez et al., 2010). Local foods have positive effects on health and access in two general ways (Martinez et al., 2010). First, local food systems offer foods that are less processed, fresher and more nutrient-dense than foods that travel longer distances to a market place (Martinez et al., 2010). Second, the local food

movement increases the availability of healthy foods at a community level, thus, encouraging consumers to make healthier choices (Martinez et al., 2010).

Farmers markets are a vital component of the local food movement that connects farmer to consumer. According to the FNS, a farmers market is defined as, “a multi-stall market at which farmer-producers sell agricultural products directly to the general public at a central or fixed location, particularly fresh fruit and vegetables (but also meat products, dairy products, and/or grains” (FNS C, pg.1, 2014). Given that a healthy diet includes five daily servings of fruits and vegetables, as well as lean meats and grains (USDA and USPHHS, 2010), this farmers market definition demonstrates a transparent link between farmers markets’ purpose and their ability to provide individuals with food for a healthy diet.

### **Farmers Markets and Federal Assistance Programs**

As identified previously, low-income families struggle to achieve this healthy diet due to lack of financial resources, compared to food secure individuals (Coleman-Jensen, 2014; Martin et al., 2013). Farmers markets have been working to provide low-income individuals access to fresh fruit and vegetables through the use of SNAP and WIC (Buttenheim et al., 2012; McCormack et al., 2010; Martinez, 2010; Holben, 2010). In order for farmers markets to accept SNAP, most use a central point of sale (POS) machine, which allows all eligible food vendors in a multi-vendor farmers market to sell eligible food products to SNAP recipients, without each vendor being separately authorized by the USDA FNS (Alternative Energy Resource Organization et al., 2014).



In order to accept WIC, the market must be registered with the WIC Farmers Market Nutrition Program (FMNP), which operates similarly to the SNAP program as described above (USDA, 2012).

Although farmers markets have been on the rise in recent years, it has been found that low-income communities have not been fully participating in this trend (Briggs et al., 2010). Several barriers have been studied as to why low-income populations are not attending the market. The switch from paper SNAP coupons to a debit card format has made it difficult for SNAP recipients to use their benefits at the market (Briggs et al., 2010). This switch has required farmers markets, who want to accept SNAP, to get certified through the USDA FNS, use POS machines at the market, and have volunteers or employees who know how to work these machines (King et al., 2014; Briggs et al., 2010). EBT terminals are expensive, and managing alternative currency programs are labor intensive (King et al., 2014; Briggs et al., 2010). Unfortunately, many markets are unable to handle the burden required of them (King et al., 2014; Briggs et al., 2010). Many SNAP recipients are not aware that farmers markets accept EBT cards (Briggs et al., 2010). Other barriers include transportation, hours of market operation, and feelings of awkwardness and discomfort while shopping (Briggs et al., 2010).

### **Purpose of Study**

The purpose of this study is to identify the role farmers and farmers markets play in emergency food systems in West Virginia, along with the impact they have on food security as a whole. The study was designed to answer the question, why have farmers markets engaged with emergency food systems, or why not? To this end, I examined both

market managers' understanding of issues related to food security, as well the systems in place in each market to support providing access to low-income families.

## **Chapter 2: Literature Review**

### **Solutions to Food Insecurity**

Food insecurity, as explained previously, is the lack of consistent access to adequate food due to lack of money and other resources (Colemen-Jenson et al., 2014; Ramadurai et al., 2012). In a food insecure household, family members may make difficult decisions between paying for food or other necessities like rent, utilities or medicine (Ramadurai et al., 2012). They may engage in coping mechanisms, like skipping meals, eating less than they feel they should, or buying cheaper food that they know is unhealthy in order to avoid outright hunger (Ramadurai et al., 2012). Poverty and unemployment are the two primary causes of food insecurity (Colemen-Jenson et al., 2014; Ramadurai et al., 2012). While it would be nearly impossible to completely eliminate food insecurity, two formal systems are available to help minimize food insecurity in the United States: public (government) assistance or private (charitable organizations) assistance (Jackelen, 2013).

Halverson et al. (2010) used a mixed methods study to evaluate patterns of food insecurity, food availability, and health outcomes among rural and urban counties. The study found that rural communities are more likely to have high food insecurity risk relative to urban.

Some of the most powerful tools in place to combat food insecurity are efforts funded through the federal government, such as SNAP and WIC (Mabli et al., 2013; Johnson et al., 2015). Mabli et al. (2013) conducted a study to assess how household food security and food expenditures are associated with SNAP participation. The study

compares the food security levels of households that have applied for and been accepted into the SNAP program, but are not yet receiving SNAP benefits, to the food security levels of households that have been receiving benefits for six to seven months. The study found that participating in SNAP for about six months was associated with an improvement in food security by 7 percent in the cross-sectional sample and 16 percent in the longitudinal sample. These findings hold true for households that experienced very low food security, households with and without children, households without an elderly member, and households with and without a disabled member.

WIC, as described above, provides benefits to low-income pregnant and postpartum women, infants and young children who are nutritionally at risk (Johnson et al, 2015). A study conducted by USDA FNS (2012) collected data from all state WIC agencies, over 500 local WIC agencies and two national samples of participants in 2009. The survey of WIC participants consisted of two interviews: one by telephone with the full sample size of 2,538 WIC participants, and the second conducted in person with 1,210 of the respondents from the first group. The interview data was combined with data about the participants including participant identification numbers and contact information, food issuances, dates of certification, types of eligibility proofs provided at certification, and size of the family unit. The study found that the majority of WIC participants reported making positive changes to their lifestyle as a result of being in the program. The study also found a positive correlation between WIC participation and food security.

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) are federally funded programs that provide nutritious meals to low-income

children for free or at a reduced price (Potamites and Gordon, 2010). On average, children from highly secure households acquired 16 percent of their daily calories from school meals while children from insecure households obtained 26 percent (Potamites and Gordon, 2010). Several studies have found the NSLP and SBP reduce food insecurity (Arteaga and Heflin, 2014; Blad 2014; Khan et al., 2011).

### **The Role of the Emergency Food System in Helping to Reduce Food Insecurity**

The emergency food system is part of providing a remedy for food insecurity. This remedy has become a permanent response to hunger in the United States. With the passage of welfare reform, the federal government is taking steps back from its commitment to a welfare state (Edlefsen and Olson, 2002). This retreat has caused an increased reliance on the emergency food system to provide food and fill in the gaps left by the federal government (Edlefsen and Olson, 2002).

Several studies show that households use more than one form of assistance to meet their family's nutritional needs (Jackelen, 2013). Many seek aid at food pantries, whether they participate in the SNAP program or not (Jackelen, 2013). In recent years there has been an increase in the use of the emergency food system (food pantries and soup kitchens) as more families look to the private sector for food assistance (Jackelen, 2013). It is important to note that households are not substituting one form of assistance for the other, but are accessing multiple types at once (Jackelen, 2013).

Although pantries and emergency kitchens provide vital calories, research has concluded that they are not providing enough nutrient-rich foods. Stark et al. (1999) found that frequent pantry users had lower consumption rates of important vitamins and minerals, such as folate, protein, calcium, vitamin C, and zinc, all of which are connected

to inadequate access to meat and fresh fruits and vegetables. This is supported by a breadth of research that shows food insecurity is positively correlated with inadequate nutrient consumption (Companion, 2010; Brown, 2007; Kirkpatrick and Tarasuk, 2008). Instead, diets provided to those by the emergency food system offer individuals high energy-rich diets obtained primarily from carbohydrates, which are associated with obesity and diabetes (Companion, 2010; Drewnowski, 2007; Ricciuto and Tarasuk, 2007). Companion (2010) found that the top three items pantries have on stock include pasta, canned corn, and egg noodles, which is congruent with this data.

While the emergency food system serves an immediate role in providing food to the hungry, its use long term will cause many negative effects (Martin et al., 2013; Tiehen, 2002; Tarasuk and Eakin, 2005; Biggerstaff et al., 2002). An ethnographic study of the feelings of volunteer workers at food banks found that volunteers felt that giving something to needy individuals was better than nothing at all (Tarasuk and Eakin, 2005). However, they were aware that the food they were giving out was unhealthy (Tarasuk and Eakin, 2005). This study by Tarasuk and Eakin (2005) echoes several other bodies of work, that demonstrate how the expansion and increased need of the emergency food system is a reflection of our society's incapability to understand the issue of poverty and food insecurity.

The idea that charity contributes to our society's failure to grapple with poverty is the overall theme of the book *Sweet Charity?* by Julie Poppendieck (1999). This book questions what charity should be, what we should do, and, what the government must understand about charity in the United States. Proliferation of food banks, pantries and soup kitchens indicates hunger, which is a symptom of poverty, as an enormous issue in

the United States. Poppendieck (1999) explains that the proliferation of such charitable organizations is taking responsibility away from the government to help. For example, the cut in food stamps and other food access relief funds does not make sense considering that poverty is growing. The growth of this emergency food industry points to a larger concern, and the continued proliferation seems to support further abandonment of the United States government's roles and responsibilities.

### **How Farmers Markets are Helping Low-income Consumers**

Providing improved access to farmers markets for low-income individuals is an increasingly popular subject of research. Martinez et al. (2010) conducted a comprehensive literature review to gain an understanding of the current local food system. Existing data from local food markets gathered by universities, government agencies, national nonprofit organizations, and other local food organizations were integrated to evaluate the definition of local foods and the effects local food systems have on economic development, health and nutrition, food security, and energy use. For nutrition and health, local food systems offer fresher, less processed foods that retain more nutrients. In addition, local food systems are likely to increase the availability of healthy foods in a community and encourage patrons to make healthier food choices. In terms of food security, direct marketing has been a key element of community food security programs with the intention of reducing community food insecurity and sustaining rural communities by empowering ties between farmer and consumer. Farmers markets have been associated, in particular, with food security programs because they are progressively becoming more adept at accepting benefits from federal and state food and nutrition programs.

Guthrie and Lin (2002) found that 19 percent of the elderly population are low-income and are considered to be at or below the poverty line. A partial solution to this large food insecurity problem with seniors is being addressed through farmers markets. The Senior Farmers Market Nutrition Program (SFMNP) provides low-income seniors with vouchers to purchase locally grown produce at authorized locations including farmers markets (Thomas, 2014). The USDA established the SFMNP in 2001 (Thomas, 2014). The SFMNP provides grants to participating states, which then administer the program through a state agency (Thomas, 2014). The SFMNP recipient must be at least 60 years of age and have a household income that did not exceed 185 percent of the federal poverty line to participate in the program (Thomas, 2014).

In 2014, SFMNP grants were awarded to 52 states and US territories (USDA A, 2014). In the fiscal year (FY) 2013, 835,795 people received SFMNP vouchers (USDA A, 2014). The 2014 Farm Bill provided approximately \$19 million to operate the program through FY 2014 (USDA A, 2014). Several studies have measured the impact of SFMNP on participants' consumption of fruits and vegetables (Thomas, 2014). All of these studies have signified the program has encouraged increased consumption of fresh produce and spawned positive attitudes among voucher participants and farmers alike (Thomas, 2014).

Several studies have identified limited market hours and location, limited number of participating farmers, transportation, and the need for nutrition and recipe programming for seniors as barriers for seniors to participate in the program (Thomas, 2014).



The Farmers Market Nutrition Program (FMNP) for women enrolled in WIC provides coupons to purchase fresh locally grown fruits and vegetables (McCormack et al., 2010). Eligible WIC participants are issued FMNP checks or coupons in addition to their regular WIC benefits (USDA B, 2014). These checks or coupons are used at farmers markets like money. During fiscal year 2013, 1.5 million WIC participants received FMNP benefits (USDA B, 2014). In 2013, 17,713 farmers and 3,322 farmers markets were authorized to accept FMNP checks or coupons (USDA B, 2014).

McCormack et al. (2010) reviewed 16 studies exploring associations between nutrition outcomes and participation in farmers market programs and community gardens. Thirty-eight percent of these studies found that participation in farmers market programs were associated with greater intake of fruits and vegetables. Fifty-six percent of studies noted an association with increased vegetable intake but not fruit. Several other studies found that attitudes toward increasing fruit and vegetable consumption were positive with WIC FMNP participants, as well as a positive attitude toward produce preparation and consumption with increased fruits and vegetables by SFMNP participants. Similarly, more positive beliefs about the importance of fruits and vegetables, ease of preparation, and price were seen in WIC FMNP participants compared to nonparticipants. Thirty-eight percent of studies found that participants in farmers market programs like SFMNP or WIC FMNP returned or planned to return to the farmers market after all the coupons were used. Nineteen percent of studies found that WIC FMNP and SFMNP participants distinguished quality of fruits and vegetables to be as good, or better, than the grocery store. All of the studies reviewed demonstrate

findings that show exposure to farmers markets may increase the long-term use of the market, thus improving overall food security and health of individuals.

SNAP, as described above, is used to improve food security in the United States. In 1994, 27.5 percent of farmers markets accepted SNAP. At its lowest farmers market participation point, in 2004, only 8 percent of farmers markets were authorized to accept SNAP benefits (King et al., 2014). In 2011, 35 percent of farmers markets accepted SNAP, and that number has been predicted to rise by about 3.6 percent every year (King et al., 2014).

Hasin et al. (2013) aimed to identify variables that are important to facilitate successful EBT transactions at Illinois farmers markets. A cross-sectional study was administered electronically to market managers in Illinois. Results found that SNAP redemptions increased drastically in Illinois farmers markets using EBT. The use of incentives, receipts, direct swipes of an EBT card, and volunteers handling the machine had significant positive effects on EBT sales.

The emergence of farmers market SNAP-based incentive programs (SBIPs) are funded through private, public and nonprofit organizations and are intended to tackle access and affordability issues for SNAP participants (King et al., 2014). Examples of these programs include the Double Up Food Bucks in Michigan, The Health Buck Programs in New York and the nationwide Wholesome Wave Double Value Coupon Program (King et al., 2014). King et al. (2014) studied the effectiveness of these programs in addressing access and affordability and found that these programs did increase access and affordability to farmers markets. The incentive programs are great mechanisms to initially attract new SNAP shoppers to the farmers market. However,

there was no significant evidence that participants of SBIPs would return to shop at the market.

Wetherill and Gray (2015) used focus groups to examine barriers to farmers market use by SNAP consumers receiving Temporary Assistance for Needy Families in Oklahoma (TANF). TANF is a federal program that provides cash benefits to over 1.7 million low-income households per year (Wetherill and Gray, 2015). The results of the study showed that few participants ate fresh produce regularly and most appreciated the convenience of shopping at a supermarket (Wetherill and Gray, 2015). Farmers markets were not perceived as available or accommodating to shopping needs (Wetherill and Gray, 2015). Concerns were expressed regarding affordability and acceptability (Wetherill and Gray, 2015). Few participants in the study were aware of farmers markets that accepted SNAP (Wetherill and Gray, 2015). These findings suggest themes relating to segregation and cultural barriers to farmers market use (Wetherill and Gray, 2015).

Guthman et al. (2006) conducted a study in California using survey and interview methodology to examine the extent to which community supported agriculture (CSA) and farmers markets are addressing food security. Findings from this study indicated that most farmers market and CSA managers like the idea of food security, however, their practices show that farm security trumps food security. Many respondents expressed great frustration in trying to balance the needs of producers and consumers, especially low-income consumers. Overall, farmers markets and CSAs are not positioned to meet the goal of improving food security. Another finding confirmed that the greatest success for bringing low-income people to farmers markets has been through the use of entitlements (WIC, SNAP, SFMNP).

## **Gleaning and How it has Helped Reduce Food Insecurity**

An old-fashioned concept, gleaning for the greater good by harvesting unwanted or leftover produce from farms or family gardens, is making a comeback (Hampl, 2004). In cities, rural communities and suburbs across the country, volunteer pickers join forces to collect bags and boxes of fruits and vegetables that find their way to homeless shelters, soup kitchens, and food pantries, as well as senior centers, low-income homes, and school lunch programs (Hampl, 2004; Hoisington, 2001; EPA, n.d.; USDA, n.d.). Growers who have surplus or seconds find a good home for these edibles beyond the compost pile; financially strapped aid organizations get much-needed fresh food for free for their patrons; and gleaners get to give back in their communities (Hampl, 2004; Hoisington, 2001; EPA, n.d.; USDA, n.d.).

A case study in Pierce County, Washington conducted by Hoisington et al. (2000) found that gleaners took home 25,000 pounds of fresh produce from farmers' fields and donated 85,000 pounds to the Pierce County Emergency Food Network. Eighty-three percent of gleaners in the study said that gleaning allowed them to use more fresh produce in their meals. Ninety percent of participants said that their participation in the gleaning project allowed them to share or receive knowledge about gardening, nutrition, and food preservation. In addition, being able to stretch their food budgets and helping to provide food for the community were identified as the most important benefits of gleaning. A study by Hampl et al. (2004) noted congruent results to those found by Hoisington et al. (2000).

Hampl et al. (2004) conducted a study titled, Project GLEAN, a collaboration with an elementary school in southeast Phoenix, Arizona. The majority of the students

are Hispanic and Spanish-speaking. In addition, all students qualify for free breakfast and lunch because their families live below the poverty line. The study pre-arranged for a local food bank to deliver gleaned fruits and vegetables on Fridays for four months. Project GLEAN looked at the results of this interaction. Researchers examined the benefits gleaning had when donated to low-income children at an elementary school. The fresh produce provided through gleaning improved all participants' dietary intake and environmental harm was reduced through limiting food waste. Gleaning is also a term that is being used for how farmers markets can organize programs to help the hungry in their communities.

Some programs occur at the end of the market day and may take produce that went unsold at the market to a local soup kitchen or food pantry. For example, FRESHFARM Markets (2015) operates 13 farmers markets in the Chesapeake Bay region. Each farmers market works in coordination with a gleaning partner (Arlington Food Assistance Center, DC Central Kitchen, First Church of Christ Holiness, The Light House, Miriam's Kitchen, Thrive DC, St. Michaels Community Food Bank). Partners collect leftovers at the end of the market and take them to designated charity operations.

Some gleaning projects involve a "donation station" where farmers market patrons donate money or products they have purchased at the farmers market for donation to food pantries or other agencies that serve the hungry (Reany, n.d.). Vendors can donate to the donation station too (Reany, n.d.). The Oberlin Ohio Farmers Market collects donations from customers and vendors alike (Hayes, 2015). Customers are asked at the market entrance to either donate money or buy extra produce and donate (Hayes, 2015). The donations are collected at a designated location at the market and are picked up by

the Oberlin Food Rescue and dropped off at Oberlin Community Service (Hayes, 2015). The farmers market in Athens Ohio uses a donation station as well (Reany, 2015).

Salvation Farms (2015) is a federally recognized, non-profit organization driven by a mission to build increased resilience in Vermont's food system through agricultural surplus management. Salvation Farms takes low-risk inmates from Southeast State Correctional Facility in Windsor, VT to gather, clean, and pack vegetables for food-insecure Vermonters that farmers have not harvested. This initiative is known as the Vermont Gleaning Collective (2013), a network of professionally organized community-based gleaning programs.

Another model for gleaning can be found at the Augusta Farmers Market at Mill Park in Maine. This market is a twenty-vendor market located in Maine's capital. The Bank of Maine sets up a table there once per month and gives away free tote bags to incoming shoppers. When the shoppers leave, the bank volunteers weigh their bags, and the bank donates \$1 per pound of products purchased to the local food bank. The Augusta Farmers Market gleaning program is part of a larger gleaning network operated by The Maine Federation of Farmers' Markets in conjunction with county extension offices around the state.

The Maine Federation of Farmers' Markets (2015) is comprised of a Board of Directors that represents 25 of Maine's farmers markets. Occasionally members of farmers markets have unsold produce at the end of the day. The Maine Harvest for Hunger has volunteers go to each market at the end of their selling day and collect all the leftover produce, which is then distributed to food pantries and shelters in the market's area. Staff at the local county extension service work in coordination with their Maine

Harvest for Hunger Program and set up a connection with local food pantries and gather volunteers to pick up surplus from each farmers market at the end of each day. This model is the first model that implements the efforts of volunteers, the emergency food system, and farmers markets.

Price and Harris (2000) studied farmers markets using Geographical Information Systems (GIS). A spatial analysis of the numbers and locations of farmers markets and non-profit food recovery and gleaning organizations allowed them to identify densities of farmers markets in relation to local food recovery and gleaning organizations.

Researchers noted that a successful relationship between farmers markets, gleaning organizations, and the emergency food system depends on sufficient densities of farmers markets in local areas to make it worthwhile for gleaning organizations to assemble donations in quantities large enough for meaningful collections. Donating large quantities from markets that are close in proximity keeps collection costs to a minimum.

### **Improving Community Food Security**

Three modes of research and disciplinary orientation come together to create the current concept of Community Food Security. However, these are not mutually exclusive, some individuals and organizations have contributed to all three styles. One set of research consists of community nutritionists and educators (Anderson and Cook, 1999). These groups stress the importance of community features that obstruct or promote food access and the need to include all members of the population in the decision-making and planning process (Anderson and Cook, 1999). The second set of contributors are mainly progressive agriculture researchers and grass roots activists whose focus is on sustainable agriculture and who look at production, distribution, and

marketing mechanisms that will help provide food security for people who are underserved (Anderson and Cook, 1999). The third set of contributors consists of anti-hunger and community development researchers, who seek more effective ways to reduce hunger and poverty (Anderson and Cook, 1999).

Hamm and Bellows (2003) conducted a qualitative study to be used by nutrition educators as a tool to help them find avenues to engage in community food security work. In the study, points of entry are described by a person's background or training, which makes a vast difference in their approaches. According to Hamm and Bellows (2003) there are three types of entry points into community food security activities for nutrition educators: 1) grassroots, 2) research and analysis, and 3) social policy. Examples of nutrition educators' participation in community food security are provided, including gleaning for homeless shelters, food pantries, and soup kitchens, recruiting volunteers to take meals to house-bound elderly citizens, teaching basic cooking skills to persons of all ages to increase food access options, advocating for alternate bus routes corresponding with good locations for grocery stores, and increasing fruit and vegetable availability through community and backyard gardens (Hamm and Bellows, p. 40, 2003). These authors call for nutrition educators to become more engaged in community food security efforts as a means to improving community food security.

Farm-to-school programs engage farmers in the local community and strengthen the local farm-to-school relationship (Thomas, 2014). Farm-to-school programs have been found by several studies to promote healthy eating habits, prevent obesity, and improve community food security (Thomas, 2014).



Community gardens are an alternative food system initiative that improves community food security and access to fresh produce (Meadow, 2013). Lawson (2005) proposes that the phrase “community garden” is associated with the “neighborhood garden in which individuals have their own plots yet share in the garden’s overall management” (p. 3). A case study on a community garden in Fairbanks, Alaska found that a community garden most successfully fostered relationships across the community and gave individuals access to space and equipment to garden whom may not have had the resources (money, space) to do so (Meadow, 2013).

A key component of community food security programs is direct marketing, with an over-arching goal of reducing community food insecurity and supporting rural communities by strengthening ties between farmers and consumers (Martinez et al., 2010). Farmers markets, above all, have been associated with food security programs because they are becoming more and more capable of accepting benefits such as SNAP and WIC (Martinez et al., 2010). Thus, farmers markets are key components in improving community food security.

The act of gleaning benefits every person involved. Food pantries, soup kitchens and their patrons benefit from free, nutritious food, and the planet benefits from the deletion of the thousands of transportation miles that moving commodities requires (Almquist, 2012). Volunteers have the chance to visit local farms and share in their bounty (Almquist, 2012). Many volunteers start to support their local farmers, thus spending their money locally (Almquist, 2012). Farmers benefit from increased publicity, tax breaks from their donations, and a sense of pride knowing their food helps

individuals who are under-served (Almquist, 2012). Gleaning creates thriving local-food communities that ensure food accessibility for all (Almquist, 2012).

## **West Virginia and the Appalachian Region**

### **Food Insecurity**

Few studies have specifically examined food insecurity in West Virginia and research relating to food insecurity is limited. Two studies examine poverty and income inequalities in West Virginia (Gebremariam et al., 2004; Desousa-Brown and Gebremedhin, 2004). Another study by Amarasinghe and D'Souza (2012) examined the possible causes, consequences, and policy implications related to obesity in the state. The causes of obesity are intricate and involve complex interactions; thus any successful deterrence and alleviation strategy should identify the key factors and interactions. They proposed a dynamic and integrated individual, social, economic and environmental model to accomplish this. Within this framework, the best mix of economic incentives, better education, and land use planning appear as key factors in obesity deterrence and alleviation and the promotion of healthier, more sustainable communities.

Tapogna et al. (2004) conducted a study examining the causes of hunger and hunger variations in all 50 states. They examined the effect of state-level economic and demographic characteristics on the state frequency rates of food insecurity and hunger. The study used an ordinary least squares (OLS) regression to analyze census data and USDA's statistics on food insecurity and hunger. The study found that in West Virginia, high peak unemployment pushed the hunger rate up. The poverty rate in West Virginia (17.9 percent) was estimated to push up hunger rates by 0.2 percent. The percentage of West Virginia renters (17.7 percent) paying more than 50 percent of their income for

gross rent was near the 50-state mean (16.4 percent). An important finding was that the factors increasing the hunger rate were largely counteracted by West Virginia's low rate of residential mobility, and the considerably smaller than average number of children in the population as a whole.

### **The Emergency Food System**

Little research has been conducted on the emergency food system in West Virginia. Tekle and Gebremedhin (2006) used static and dynamic models to analyze the influence of macroeconomic and policy factors on food stamp participation in West Virginia. Key findings from this study include an individual's income has an inverse and significant relationship with food stamp participation. Unemployment is positively correlated with food stamp participation. Employment growth rate had no significant effect on food stamp participation; thus, people may still need food stamps despite being employed. No research could be found related to food pantry and soup kitchen use in West Virginia or Appalachia in general.

Slack and Myers (2012) studied the extent to which county-level variation regarding SNAP participation in Appalachia, Texas Borderland, and the Lower Mississippi Delta can be explained by place-based factors (poverty, labor market conditions, population structure, human capital, and residential context). A regression analysis was used to analyze data drawn from the USDA and US Census Bureau. Appalachian counties were characterized by high levels of SNAP use. The study found that poverty, labor market conditions (blue collar jobs and not enough of them), population structure (aging-population), human capital, and residential context (i.e. housing costs relative to income) explain this phenomenon.

## **Farmers Markets**

As noted previously, direct marketing is linked with improved community food security. A study conducted by Hughes et al. (2008) evaluated the economic impact of farmers markets in West Virginia using an opportunity cost, input-output model. This study found that 43 full time jobs, \$1.075 million in output and \$0.653 million in gross state product were generated from farmers markets in West Virginia in 2006. In a similar vein, Brown et al. (2007) studied farmers market vendors' sales levels, promotional techniques and operational characteristics. These studies, although relevant, do not discuss how farmers markets may be interacting with the emergency food system. There was no published research found that was conducted qualitatively on farmers markets in West Virginia, or that examines SFMNP, WIC, and SNAP use at farmers markets in the state.

Pitts et al. (2014) conducted a study that inspected socio-demographic characteristics of customers, along with barriers and facilitators to shopping at farmers markets in rural communities, and associations between farmers market participation and fruit and vegetable consumption relative to body mass index. A cross-sectional survey of farmers market customers and primary household food shoppers in eastern North Carolina and the Appalachian region of Kentucky were used as the means to gather data. Linear regression allowed for analysis of associations between farmers market participation and fruit and vegetable consumption. The study found that fruit and vegetable consumption was associated with shopping at the farmers market. In addition, barriers to shop at the market included hours of operation and weather conditions.

## **Chapter 3: Methods**

### **Problem Statement**

Food insecurity is a problem in West Virginia. Individuals who are food insecure rely on assistance from private organizations, such as food pantries and soup kitchens. Individuals may also rely on government assistance, with programs like SNAP and WIC, as a means to cope with food insecurity. Farmers markets have been trying to become more accessible to low-income individuals and increase community food security through the acceptance of SNAP, WIC, and SMFNP vouchers; but to what extent and in what ways are farmers markets intersecting with emergency food systems to improve community food security through other avenues, such as gleaning programs?

### **Methodological Overview**

A handful of studies have analyzed farmers markets; however, no study has been found that looked at the relationship between farmers markets and the emergency food system. Further, all existing research on farmers markets has used quantitative methods. Qualitative research is also appropriate when... “the goal of your research then is less to test what is already known (e.g. theories already formulated in advance), but to discover and develop the new and to develop empirically grounded theories” (Flick, 2009, p. 15). As this relationship between farmers markets and the emergency food system is not deeply understood, the goal of this study was not to create an intervention or otherwise attempt to change the environment, but rather to come to understand the relationship as it currently exists...with an eye to eventually developing programs that can respond to the existing context.

A descriptive study is one in which information is collected without changing the environment (Ary et al., 2010). This is the best methodology to use for collecting information that will demonstrate relationships and describe the world as it exists (Ary et al., 2010). In order to evaluate this relationship, or lack thereof, a descriptive research design was used by means of key informant interviews. Interviews were conducted with farmers market managers in West Virginia. Market managers are responsible for implementing programs with the community and have relationships with the vendors that sell at the market. Managers were chosen as the key informants because they have the deepest insider knowledge about their own markets. Phone interviews were chosen for this study because they made it possible to collect data in a relatively short time over a large geographic area (the whole state of West Virginia) (Ary et al., 2010). Phone interviews, compared to face-to-face interviews, are associated with less interviewer bias and less social desirability bias because the respondents have a feeling of anonymity (Ary et al., 2010). Phone interviews were conducted June 2014 through April 2015 (10 months). Interviews were not recorded, however, extensive notes were taken throughout the interview to ensure accuracy.

### **Trustworthiness**

The rigor of a qualitative inquiry is judged by credibility, dependability, confirmability, and transferability (Miles et al., 2014; Ary et al., 2010). Confirmability of the research was tackled by establishing an audit trail (Ary et al., 2010); this ensures that someone other than the researcher could look at the research materials and come to understand how the researcher constructed the study results. Ary et al. (2010) describe an audit trail as a trail of well documented evidence, including data collection methods,

detailed field notes, videotapes and other descriptive material. The audit trail (notes, interviews, call-log) will allow other researchers to arrive at similar findings using the same data and documents (Miles et al., 2014; Ary et al., 2010). Further, this audit trail promotes the possibility that findings from this research can inform researchers studying similar phenomena in different local contexts (Ary et al., 2010). Additionally, to support confirmability, data analysis was peer reviewed (Stemler, 2001).

Seventy-two of the ninety farmers market managers in West Virginia were interviewed. Unsuccessful attempts were made to reach the other eighteen. Interviewing 80 percent of farmers market managers in West Virginia allowed for a saturation of views and perspectives, thus, allowing this study to truly speak of the entire state. Investigator triangulation was also incorporated (Stake, 1995) to determine if other researchers would view the data and findings in a similar manner. A thesis committee member, Dr. Bradley Wilson, as well as his doctoral student Joshua Lohnes, reviewed coding schemes that were developed during data analysis. In addition, several doctoral students from a doctoral writing class reviewed the coding schemes. The methods used for investigator triangulation may also add theory triangulation (Stake, 1995) to the research, because committee members and doctoral student colleagues came from different research backgrounds and different theoretical viewpoints.

More could have been done to establish credibility, ensuring that study participants believed that the presentation of data and data analysis aligned with their understanding. For example, notes taken from the interview could have been sent to market managers for review; however, this process would have taken a great deal of time and the number of market managers would have decreased, thus making the study less

representative. Upon completion of the thesis, however, the researcher plans to send the manuscript to the market managers both to share knowledge, as well as to receive feedback and critique for future work.

## **Sample**

The target population was every farmers market manager in the state of West Virginia. A list of farmers markets and their market managers was collected from the West Virginia Farmers Market Association (2014). According to this list, there were 90 farmers markets in the state. Fifty-one out of 55 counties in West Virginia have farmers markets. Forty-nine counties out of the 51 containing farmers markets are represented in this study. Jackson and Randolph are the only two counties that contain farmers markets that are not represented. Hampshire, Boone, Hardy, and Wyoming counties did not have farmers markets in 2014.

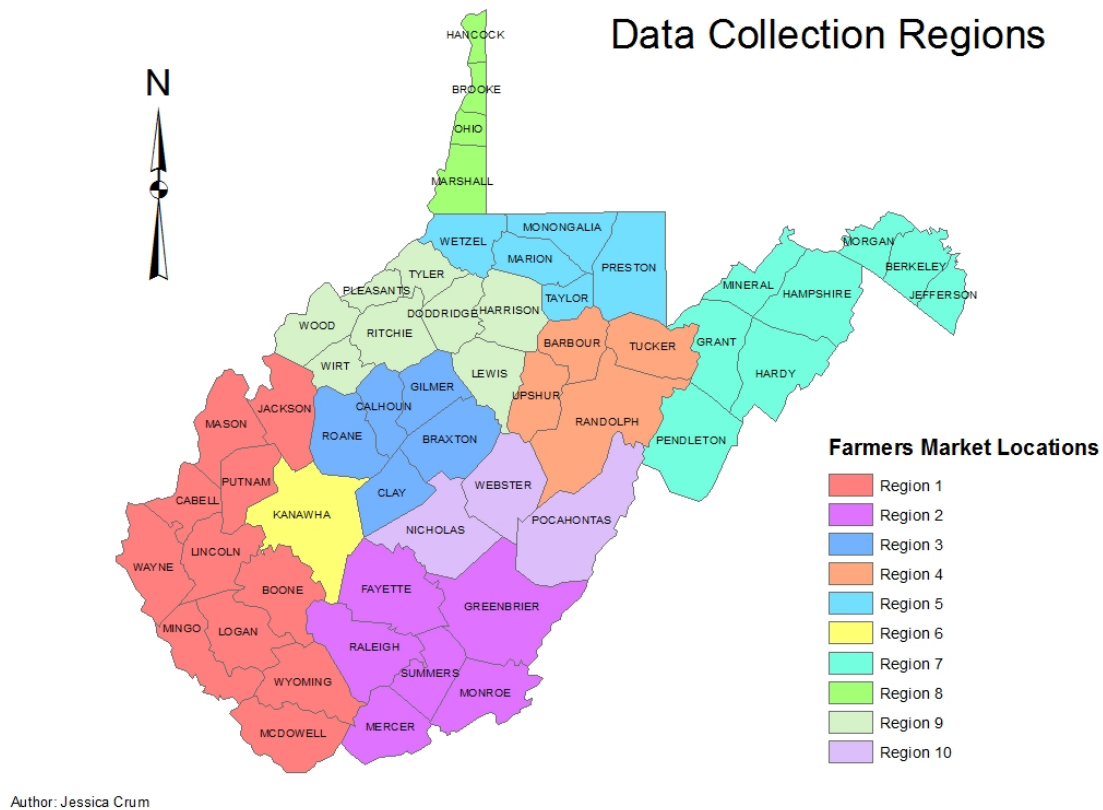
To conduct this study, farmers markets were broken down into ten regions based on counties. Counties were grouped into geographic clusters, shown in Table 1 below, as a way to better analyze patterns of a particular region as they arose from the analysis. Market managers were called and asked to schedule a convenient time to conduct the interview. Figure 1 demonstrates how counties were grouped and the order in which they were called. To schedule interviews, market managers were contacted in numerical order starting with region 1. A call log was kept indicating the market managers name, number called, the time of day, if an interview was scheduled or if a message was left, and any other notes about that phone call.



**Table 1: Number of Respondents Interviewed from each region**

Region 1	10	Region 6	2
Region 2	12	Region 7	8
Region 3	8	Region 8	4
Region 4	4	Region 9	10
Region 5	11	Region 10	3

**Figure 1: Data Collection Regions Map**



## Instrument

An interview tool was designed to guide the discussion and make sure that all topics were covered (see Appendix A). West Virginia University Institutional Review

Board approval was granted before conducting any interviews. Seven main questions asked about the market, the market manager, the shoppers at the market, and issues and programs related to food security. Additional questions that followed up on the main questions resulted in twenty-six total questions being asked during the interview that lasted approximately 20 to 30 minutes from start to finish. The complete interview tool contains an introduction, an outlined script, and a list of open-ended questions relevant to farmers markets and food security (Kvale and Brinkmann, 2009). The introduction establishes the purpose of the interview, explains who is involved in the process, establishes credibility for the interviewer, explains why the interviewee's cooperation is needed, and how the community will benefit from the end product (Kvale and Brinkmann, 2009). Key and probing questions make up the list of open-ended questions. Key questions are important to getting the information one has set out to collect (Kvale and Brinkmann, 2009). Probing questions encourage interviewees to reflect more deeply on the meaning of their responses (Kvale and Brinkmann, 2009).

**Table 2: Interview Questions**

<p>1.) When did the farmers market form?</p> <ul style="list-style-type: none"> <li>a. Why did it form?</li> <li>b. How did you end up working with this farmers market?</li> <li>c. What is the role of the farmers market in the community? <ul style="list-style-type: none"> <li>i. Do you have any volunteers that help you manage the market?</li> </ul> </li> <li>d. Has it reached its potential? What are next steps?</li> <li>e. What are the goals of the farmers market?</li> </ul>
<p>2.) Tell me about yourself/business/role...</p> <ul style="list-style-type: none"> <li>a. How does that fit into the operation of the farmers market as a whole?</li> </ul>
<p>3.) Who comes to shop at this market? What are the ages, income levels, education levels, family status, of the people who shop at your market?</p> <ul style="list-style-type: none"> <li>a. Are there any groups/individuals who aren't coming to your market who you would like to see shop there?</li> </ul>

<ul style="list-style-type: none"> <li>b. Do you have any plans or programs for attracting them to your market?</li> <li>c. If so Why? / If not why not?</li> <li>d. Where do your customers come from?</li> <li>e. What areas do your vendors travel from to attend this market?</li> </ul>
<p>4.) What does “food security” mean to you?</p> <ul style="list-style-type: none"> <li>a. Do farmers at your market accept WIC farmers market nutrition vouchers?</li> <li>b. Do farmers at your market accept SNAP benefits?</li> <li>c. Do farmers at your market accept Senior farmers market nutrition program vouchers?</li> <li>d. Are there any programs at your market that are targeted towards individuals or families that you believe might be food insecure or experience hunger on occasion?</li> <li>e. Does your farmers market have any cooking demonstrations?</li> <li>f. Give out recipes or in other ways promote a healthy lifestyle?</li> </ul>
<p>5.) Does your market donate or individual farmers at your market sell produce to hunger-related organizations (like a food pantry or soup kitchen)?</p> <ul style="list-style-type: none"> <li>a. What organization? POC?</li> <li>b. What are the biggest barriers or challenges that prevent your farmers market from selling or donating food to a local hunger-related organization?</li> </ul>
<p>6.) As the local movement has grown, some have begun to criticize it as “elitist”, with expensive foods largely unaffordable for working people, seniors, and those on a fixed income. What do you think about this perception?</p>
<p>7. Do you believe that hunger is a problem in your community?</p> <p>If they say yes, then ask what they think is the cause? (I wouldn’t prompt them unless they say they don’t know. Then you could ask: Do you think there are good jobs in your area that pay a living wage? Are there high numbers of elderly or disabled on fixed incomes? Do you believe there is a drug addiction problem in your community?)</p>

Table 2 displays all the questions used in the interview process. Questions one and two asked about the formation of the farmers market and the manager’s role in its formation. These questions were designed to get the market manager talking comfortably in the interview. They allowed market managers to start thinking and framing their responses from their own lens. Question three was asked to help establish the demographics of who shops at the market, as well as the size of the market (i.e. is it well-

established). These first three questions were not formally analyzed, however, results from these questions can be found in Appendix B.

Question four was designed to gauge the market manager's perspective on food security and to see what s/he was currently doing at the market to support food security. Question five asked about gleaning programs and barriers related to gleaning at the market. This question also helped the researcher gauge how the markets are intersecting with the emergency food system and whether or not the managers believed that should be a role of the farmers market. Question six asked managers to analyze the "elitist perception" that has followed farmers markets in recent years. Although answers to this question were not formally analyzed, data generated in response to this question provided important background information, especially helping the researcher understand perceptions a market manager may or may not have. The final question asked about the farmers market manager's opinion of hunger in the community. Responses to this question were telling in how market managers viewed hunger in their community and whether or not farmers markets, through increased community food security, could be critical actors in improving this issue.

Note-taking was used as the data collection method. While interviews were conducted, the interviewer wrote down as many direct quotes as possible, especially when the interviewee provided a new insight or captured a trend articulately. After each question was answered, the interviewer would pause and write a summary of what the interviewee had just said, in case some verbatim material was missed. The interviewer asked clarifying questions as needed. In the presentation of data in the results and discussion sections below, direct quotes are indicated by quotation marks.

The researcher recognized that there was increased room for error by not recording and transcribing the interviews, however, note taking allowed for a greater number of managers to be included in the study. If all interviews needed to be transcribed, only a fraction of the market managers could have been interviewed, as there would have been too much data to analyze considering the resources available.

### **Data Analysis**

A basic interpretive qualitative research design served as the methodological approach for this study (Merriam, 2002). Vibrant and rich data allowed the complexities of community food security and hunger in a farmers market setting to be analyzed.

Notes taken from the interview, specifically from questions four, five, and seven were hand-coded and divided into meaningful and analytical units using Excel. Questions four, five, and seven provided answers relevant to community food security and gleaning in West Virginia. Content analysis using an emergent coding technique was used to guarantee exhaustiveness of the analysis. Data were analyzed, and then reanalyzed to allow additional themes and sub-themes to emerge (i.e. access to healthy foods). As codes emerged from the data, all text that aligned with a particular code was grouped in order to better understand the nature of that code. This grouping then allowed for a more focused analysis, where sub-codes were delineated within subsets of the larger data set.

## Chapter 4: Results

Market managers were interviewed from all over the state. As a way to give added meaning to the quotes used in analyzing data, the researcher distinguished the managers based on the geographic location in the state. According to the United States Census Bureau (2015) urban-rural classification scheme, “rural” encompasses all population, housing, and territory not included in the urban classification. “Urban” areas are those of 50,000 people or more. These classifications of rural versus urban are used here to categorize farmers markets as shown in table 3.

**Table 3: Number of urban versus rural farmers markets in each region**

Region	Rural	Urban	Region	Rural	Urban
Region 1	10	0	Region 6	1	1
Region 2	10	2	Region 7	5	3
Region 3	8	0	Region 8	4	0
Region 4	4	0	Region 9	7	3
Region 5	8	3	Region 10	3	0

### Question Four: Food Security

In response to question four – What does “food security” mean to you? – market managers provided a wide range of answers. All of their answers fit into four main thematic categories: access, knowing where your food came from and how it was produced, the ability to grow one’s own produce, and lack of knowledge about the meaning of food security. Table 4 indicates the codes used in the first round of coding.

Answers/responses were then dissected. For example if a market manager discussed one theme then it was coded accordingly. If they discussed several themes in their response, then a code for each theme was assigned. During the second round of coding, like themes and ideas were grouped together, thus creating four thematic categories. Figure 2 illustrates the categorization process used during the second round of coding.

**Table 4: Codes Used In First Round of Coding Question Four**

<b>Codes</b>	<b>Number of responses</b>
Access	35
Health (food is healthy or nutritious)	21
Knowing where your food comes from	18
Best practices used in growing process/safety	16
Local (food is local)	15
I don't know/ no response	13
Community	8
Growing your own produce	6
Farmers make a livable wage	2

**Figure 2: Thought Process Used for Second Round of Coding Question Four**

**Access**

- Access to food (35)
- Community Food Security/Food Sovereignty (13) (includes health, community, farmers make a livable wage and local)
- Access to healthy foods (8)
- Access to local foods (5)
- Knowing where your foods comes from and having access (3)

**Knowing Where Your Food Comes from and how it was Produced**

- Knowing where your food comes from (18)
- best management practices (16)

**Having the Ability to Grow one's own Produce**

- Having the ability to grow your own produce (6)

**Lack of Knowledge about Food Security**

- "I don't know," (13)



## **Access**

Thirty-five market managers associated “food security” with the ability of a person to have access to food; however, there were varying views as to what access meant. The four primary understandings of “access” related to 1) community food security and food sovereignty, 2) healthy foods, 3) local foods, and 4) source of food (i.e. knowing where your food comes from). Some managers associated access with multiple categories. In particular, many of the managers who discussed access in terms of healthy foods, also mentioned the issue of local foods.

**Community food security and food sovereignty.** Thirteen managers classified food security as access in combination with several other themes (health, community, local, farmers making a livable wage, etc.). This combination of themes falls in line with the definitions of community food security and food sovereignty, or “the right of people to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Arrows for Change, 2014, p.31). Two quotes articulate community food security and food sovereignty:

Food security is built on three pillars...Food availability - sufficient quantities of food available on a consistent basis, food access - having sufficient resources to obtain appropriate foods for a nutritious diet, food use - appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.  
(Manager from rural county)

Food security, described by Clark, is the ability for people to have fresh, local, produce. He emphasized the importance for farmers to be able to make a livable wage on farming, which is not currently happening at this farmers market. People more or less farm as a hobby or side project.  
(Manager from rural county)

The literature on community food security expresses the importance of a nutritionally adequate diet that is obtained through sustainable food systems that maximizes community self-reliance, where farmers make a livable wage. These quotes emphasize nutritious diet, sanitation, local food (i.e. community self-reliance), and social justice (i.e. farmers making a livable wage).

**Healthy foods.** Eight managers identified access to healthy foods as food security. As one manager explained, “food security is making healthy choices for one’s self through leading a healthy lifestyle. You need to treat your body good so that as you get older you will have a great quality of life” (manager from rural county). Access to healthy food “that meets the basic nutritional needs of the individual” differs from just access to food (manager from rural county). This theme falls in line with food sovereignty by highlighting the importance of healthy foods in one’s diet.

Some managers believed that a lack of health consciousness among consumers posed a barrier to shopping at a farmers market. Illustrative examples show a perception among farmers market managers that “if people cared more about what they ate” or “knew where their food was coming from and what was in it” they would almost certainly shop at the farmers market, where “produce is grown with care” and individuals “know where their food comes from, how it was grown, and who grew it” (manager from rural county). This implies that participation at farmers markets is a choice reflective of a certain set of values no matter what one’s income may be (Guthman et al., 2006; Allen et al., 2003). “I guess it’s a cultural thing where people think food has to be super cheap. This is not necessarily the case. Yes, my produce is more expensive but it was grown with more care” (manager from rural county). This shows an attitude by farmers market

managers that low-income households just need to be educated about healthy vs. unhealthy food.

**Local foods.** Five managers identified access to local produce as food security. There is a want, identified by managers, for stronger community ties and less dependence on outside sources of food production by “keeping our food system as close as possible from where we are living” (manager from rural county). Access to local foods suggests a desire for stronger community, which in turn would produce a successful farmers market.

**Source of food.** A small portion of market managers (3) spoke to the need for people to have access to food, as well as knowing where it is coming from or being able to grow your own food. “Knowing where your food is coming from and having access to it at all times” or being able to grow your own food would cause individuals to question or go against the status quo. “Knowing where your food is coming from” and “being able to grow your own food” are themes that have totally different meanings when combined with having access to food. These themes in combination with each other demonstrate ideas of community self-resiliency and freedom from large supermarkets or even large organizations that manufacture processed foods. They are also reminiscent of earlier years when a person did know where her or his food came from (i.e. the butcher) and did have a garden. There was less dependency on outside sources for food because most food was produced and purchased and consumed locally. In addition, these themes may be barriers for less health-conscious consumers to shop at the market, as these perceptions imply that participation at a farmers markets is a choice reflective of a certain set of values no matter what one’s income may be.

### **Knowing where food comes from**

This code differs from the above sub-code (knowing where your food comes from in combination with food access) because these responses focused on the business aspects of a farmers market, instead of community self-reliance. Eighteen market managers identified “knowing where your food comes from” as food security. In addition to knowing where one’s food is coming from, sixteen market managers identified that food security is a combination of knowing where one’s food comes from, that it was grown using best management practices, and that products were handled in the safest manner.

The “knowing where your food comes from” and “best practices/food safety” ideologies demonstrate a production-mindset. The main focus of these market managers is not food security as defined from the consumer perspective. They are instead primarily focused on the profitability and sustainability of their markets and farms.

Food security is knowing where ones food comes from, that it was grown using best management practices and that products were handled in the safest manner. (Manager from rural county)

Food security means sources verified, just so you know who has grown the produce and how they have done so.” (Manager from rural county)

The literature highlights that small-scale farmers sell produce at the farmers market to gain access to a steady following of customers, cut out market intermediaries, and keep a greater share of the food dollar. In short, they are there to make money. A producer will use best management practices because s/he knows they will lead to successfully production and her/his food will meet appropriate health standards. These quotes emphasize a producer mindset.

### **Having the ability to grow your own produce**

A small portion (6 managers) said that food security was the ability to grow your own produce. “People need to not only have access to fresh produce but also have the ability to grow their own. This way they are self-reliant on themselves” (manager from urban county). Responses indicate themes of individual self-reliance as opposed to community self-reliance.

### **“I don’t know.”**

Thirteen market managers (18%) answered “I don’t know” when asked what food security meant to them. This could indicate that they had never been asked this question before and so had not yet formed an opinion regarding its meaning or that they did not know what the term food security meant.

### **Farmers Market Support to Low-income Community Members**

The general question of “what does food security mean to you” was followed by a series of questions about federal food assistance programs that could be offered at the farmers market (such as SNAP and WIC and Senior FMNP) or other programs that farmers markets may have to help food insecure individuals or families. Providing improved access to farmers markets for low-income individuals is a goal for community food security. Conversely, the goals of farm security are to provide markets for small-scale farmers to thrive, with fewer intermediaries. This allows the farmer to keep a larger share of the food dollars being spent in the community (Guthman et al., 2006). These goals were merged together with the 1996 Farm Bill (Guthman et al., 2006). In this bill, an alliance was made between the community food security and sustainable agriculture

movements, uniting the goals of farm security and food security in their policy and ventures (Guthman et al., 2006).

Seventy-one out of 73 managers interviewed said that their market accepted at least one federal assistance program form of payment (WIC, SNAP, or Senior FMNP) or provided cooking demonstrations, gave out recipes, or in other ways promoted a healthy lifestyle as a way to reach out and better support low-income populations in West Virginia. Table 5 shows the percentage of farmers markets that use programs, such as WIC, SNAP, SFMNP, cooking demonstrations, handing out recipes, or other methods to connect with low-income populations.

It should be noted that cooking demonstrations and cooking classes are two different things. Cooking classes are included in the “other” category and are more than likely used for outreach to low-income individuals. Cooking classes are used to teach individuals how to cook a meal from start to finish, in a hands-on manner. The produce and kitchen equipment are provided. A cooking demonstration is used to show people how to cook with what is available at that day’s market. An individual will watch as another person cooks. Typically food is given in sample form after a demonstration is over.

**Table 5: Programs Used at Farmers Markets in West Virginia to Support Low-Income Populations (n=72)**

WIC FMNP	SNAP	Senior FMNP	Cooking demonstrations	Recipes	Other
62%	49%	90%	47%	75%	40%

The “other” column represents methods farmers markets in West Virginia use as a means of attracting or aiding lower-income populations, such as children’s vouchers

which are coupons given out to children at school to be used like cash at the farmers market. Various models of this strategy were used at farmers markets in West Virginia and this was a popular program. For example, some markets would give out coupons while others would set up a farmers market at school so that children could get produce with their coupons there. One farmers market used a reward system, when a child came to the market they received a stamp, for every 5 stamps they got a prize.

Double your bucks is another program that farmers markets used that allow WIC, SNAP and SFMNP recipients to get double the amount of produce for the same price. How this program works is money is given (usually through a donation or grant from a nonprofit or private organization) to the farmers market to cover the costs that the SNAP recipient is saving (Aubrey and Charles, 2014). In other words, the donated money picks up the tab so that the farmers market and farmer do not lose any money from participating in the program (Aubrey and Charles, 2014).

One program used raised beds as an educational tool geared towards low-income individuals and children. In another program raised beds were given to three low-income families to teach them how to grow their own produce. All the families kept the food they had grown for their own consumption; extra produce was donated to the market to either sell or glean.

Some markets coordinated buses to take seniors to the market. And a few markets had nutritionists come on market days to teach health classes. These programs illustrate the ways in which farmers markets are reaching out to improve food security in their community.

### **Question Five: Gleaning Programs**

In question five, market managers were asked whether or not their market or individual farmers at their market donated or sold produce to hunger-related organizations. If the manager responded yes, then they were asked what organization they donated or sold to and the point of contact for that organization. The last follow-up question asked market managers what the biggest barriers or challenges are that prevent their market or farmers from selling or donating food to a local hunger-related organization.

Gleaning programs at farmers markets in West Virginia fall into three categories: official, unofficial, or nonexistent. Official gleaning programs (31% or 22 markets) are those in which market managers were able to articulate the organization (soup kitchen or food pantry) they donated to, on what days of the month, and the logistics (who, when, where) of getting the produce to the pantry. These gleaning programs had clear and organized plans of action and happened at least once a week. Gleaning models used at these markets included donation stations, while others just asked for donations at the end of the day. In addition, markets that are successful were more likely to have an official gleaning program than those that are not.

A definition of well-established or successful markets (e.g. Morgantown) was created through the interview process. These markets are rooted in their communities and have been in existence for at least five years. The location and awareness of the market is critical in attracting customers (Brown, 2002). People will not shop at markets that are inconvenient or of which they have no knowledge of (Brown, 2002). Well-established markets are located in town or along a well-traveled road. Several well-established markets in West Virginia are located in the downtown area of their communities, while



others are located at a community center, park, library or shopping center parking lot. Well-established markets have more than 15 vendors that sell at the market each week. These markets have an EBT machine and except SNAP and WIC benefits, which as described earlier, is a very involved process to obtain. Lastly, well-established markets have a website that is kept up to date. According to this definition there are ten farmers markets in West Virginia that are considered well-established, as shown in table 6.

**Table 6: List of Well-established Farmers Markets in West Virginia**

Alderson Market	Lewisburg Farmers Market
Berkeley Springs Farmers Market	Morgantown Farmers Market
Bridgeport Farmers Market	Shepherdstown Farmers Market
Buckhannon-Upshur Farmers Market	The Wild Ramp, Huntington
Fayette County Farmers Market	Williamson Farmers Market

Unofficial gleaning programs (26% or 19 markets) are those that are inconsistent and do not necessarily take place around a set schedule. The plans for these programs are not clear and organized. For example, one market claimed to not have a gleaning program but an individual would come and ask for leftovers and then distribute them to seniors in the community. This example indicates existence of gleaning but does not qualify as an official gleaning program because of its irregular nature and its lack of organization by the market manager. Some markets may have an organized plan but only donate once a month or every other week.

Thirty markets (42%) did not have any history of gleaning taking place at their market so these were classified as nonexistent programs. So overall, a majority of West

Virginia farmers markets (58% or 42 markets) that were part of this study do have some sort of gleaning program, although they may be irregular and unorganized.

Of the well-established, successful markets, 70 percent have official gleaning programs and 30 percent have unofficial gleaning programs. These percentages are much higher than for the 61 farmers markets considered to be not well-established in West Virginia. In these markets, only 25 percent have official and 26 percent have unofficial gleaning programs. Generally, farmers markets with official or unofficial gleaning programs were more likely to engage in other practices targeted towards low-income populations. Table 8 shows the percentage of the 22 markets with official gleaning programs that also had other low-income-oriented programs, as compared to the percentage of the markets with unofficial (19 markets) or no gleaning program (30 markets).

**Table 7: Percentage of farmers markets with official, unofficial and no gleaning program who also use other methods to promote community food security**

<b>Type of Gleaning Program</b>	<b>WIC FMNP</b>	<b>SNAP</b>	<b>Senior FMNP</b>	<b>Cooking demonstrations</b>	<b>Recipes</b>	<b>Other</b>
Official (n=22)	63%	55%	91%	59%	77%	45%
Unofficial (n=19)	58%	52%	89%	37%	74%	50%
None (n=30)	57%	33%	83%	40%	67%	27%

### **Perceived Barriers**

As part of question five, market managers were also asked to identify the biggest barriers or challenges that prevented their farmers market or farmers from selling or donating food to a local hunger-related organization. Responses to this question could be

divided into four basic categories: 1) not enough leftovers, 2) logistics, 3) difficulty with pantries or soup kitchens and perishable nature of produce, and 4) farmers trying to make a living. Table 8 showcases the themes used in the first round of coding for this part of question five. Themes were then condensed and consolidated in the second round of coding to the four indicated above.

**Table 8: Codes Used to Analyze Question Five**

<b>Codes</b>	<b>Number of Responses</b>
Not enough leftovers	36
Logistics of finding a place (pantry or soup kitchen) and delivering food	20
Perishability of food	11
Not enough time	9
Farmers are trying to make a living for themselves	6
Farmers use leftover produce for personal use after market	4
Product liability	3
No food pantry or soup kitchen in county	1
Recognition (farmer wants recognition for their donation)	1
I don't know/no response	1

#### **Not enough leftovers**

A total of thirty-six market managers said they did not have enough leftovers to donate or sell after market; these managers fell into two groups. Some managers provided unsolicited discussion of how they would donate if they did have leftovers. A different subset of this overall group explained that if they did have leftovers, they would not donate, although again, this discussion was not explicitly solicited by the interviewer.

Different managers provided different explanations as to why they would not donate. Some cited issues with product liability (related to logistics) that made the very idea of donating food unappealing. Some markets associated gleaning with added work – both physical and administrative – on the farmer’s part. Others cited themes relating to difficulties with the food pantries, such as storage and perishability. A few responses show themes that fall under the “farmer trying to make a living” category.

### **Logistics**

Eighteen markets cited logistical reasons for not donating. Logistics included time, effort, and coordination of getting produce to the pantry or soup kitchen. “For markets that do not have someone that comes and picks up all the leftovers, the logistics of finding a pantry or soup kitchen and delivering the food there is a barrier for farmers to donate or sell” (manager from rural county). Market managers indicated that farmers have expressed frustration about time constraints and the added burden of calculating the logistics and donating produce. Ultimately, they feel that this effort is too burdensome, although, if someone else were to do this work for them, according to the farmers market managers, most farmers seem to be open to the idea of donating their leftovers.

### **Difficulty with pantries**

Pantries and soup kitchens are often faith-based and run mostly by volunteers (Tiehen, 2002). It was mentioned throughout the interview process that food pantries and soup kitchens keep unusual hours of operation and most do not have large refrigerators, which is necessary for keeping produce. Twelve market managers said that difficulty with pantries was the largest barrier to establishing a gleaning program. One manager commented on the hours often kept by pantries in her community, “The only pantry in the

area has weird hours, so by the time the food would get to the pantry it would no longer be fresh” (manager from rural county). One problem is that no one from the pantry may be available to accept the produce at the time that the market ends and has the produce available. The other has to do with the irregular hours of operation of the food pantry in relationship with when the market has the food to donate. For example if a market ends on Saturday at noon but the next food pantry day is a Friday evening, then the produce would be about a week old. Another issue could be that a market has a good amount of produce every week and the pantry is only open the second Thursday of any month and so the logistics do not work well.

One manager said “There are no food pantries in our county” (manager from urban county). Through the use of WV FoodLink, the researcher was able to determine that there was a food pantry within 20 miles of the farmers market where this statement was made. Therefore, the issue is not that there was no food pantry, but that the market manager was unaware that this food pantry exists.

Many pantries do not have the capacity (i.e. refrigeration required for produce) to accept donations from farmers markets (Biggerstaff et al., 2002). One manager voiced this barrier, “The pantries are not equipped to take the produce the farmers are willing and wanting to donate and not all the places that are willing to accept the produce may not know how to use the produce in cooking, for example okra” (manager from rural county). Another manager from the opposite side of the state perceived the same barrier, “There is no refrigeration at the food pantry in town, and so they will not accept produce leftover from the market. They only accept canned goods.”(manager from rural county).

The quotes show a need for updated pantries that are better able to accept produce if farmers markets and the emergency food system are going to work together.

### **Farmers are trying to make a living**

The farmers are trying to make a living theme incorporates two modes of market manager thinking. First, because farmers are trying to make a living they cannot just give away their products. Second, instead of donating, farmers will take their leftovers home for personal use.

“The cost of growing, producing, and traveling to the market incurs costs. By donating, farmers would not be compensated for all their work” (manager from rural county). The manager believes that most farmers do not consider selling or donating produce to a soup kitchen or food pantry as an option. In other words, “they have never considered it as an avenue to get rid of excess produce” (manager from rural county). Similarly, “most of the farmers are smaller growers and are trying to cover their own costs and make a living” (manager from rural county).

Instead of donating many farmers keep leftovers for their own consumption. “They would just keep the leftovers for themselves. They are poor. Also, it is difficult for the farmer to be responsible for dropping the produce off to the soup kitchen or food pantry” (manager from rural county). Another manager states, “a lot of farmers would eat leftover produce or freeze or can it to save for a later date” (manager from rural county).

### **Question Seven: Hunger in the Community**

Question seven asked farmers market managers if they believed that hunger was a problem in their community. Codes used to analyze question seven can be found in table

nine. Only five market managers responded “no” to this question. Managers that answered “no” believe that there is enough government or private assistance that is designed to help low-income families obtain food. For example, “No, there is enough government assistance available that people are not hungry. All they have to do is file for food stamps and they’re good to go” (manager from rural county). Others said that hunger is not an issue because there are plenty of food pantries and soup kitchens. “I don’t think so, there are food pantries and other resources here” (manager from rural county).

A majority of market managers recognized that hunger is a problem related to insufficient income due to a lack of good paying jobs. Nineteen or 26 percent of market managers mentioned seniors and thought that seniors being on a fixed income led to hunger. Nine market managers mentioned anyone on a fixed income was a cause of hunger. “Yes, there are a high number of low-income families and a high number of seniors that are on limited incomes living in the area” (manager from rural county). Another nine thought that drug abuse was a cause, and six market managers believed that hunger is a problem everywhere. “Yes, hunger is a problem everywhere you go. There are not enough good paying jobs for everyone. This problem is rampant everywhere. And there are a lot of seniors living on fixed incomes” (manager from urban county).

Several market managers called out the coal companies of West Virginia for not supporting the communities. “There is a huge problem with obesity and poverty in this area. Coal mines are the only thing going here and they did very little to support the community” (manager from rural county). One market manager said that hunger was a

problem “... due to uneducated consumers. They really don’t know how or where to prepare less expensive produce” (manager from rural county).

**Table 9: Codes Used to Analyze Question Seven**

<b>Codes</b>	<b>Number of Responses</b>
Not enough good paying jobs	38
Large senior population living on fixed incomes	19
Large population (not just seniors) living on fixed incomes	9
Drug use	9
Hunger is everywhere	6
Poverty	3
Obesity	2
Coal mines not supporting communities	2
People are lazy	2
Poor or no access to food (food desert)	2
Consumers do not know how to spend money	1
Farmers are faces of hunger	1
GMOs, food additives, and unhealthy foods	1



## **Chapter 5: Discussion and Recommendations**

### **Farmers Markets and Community Food Security**

When asked about food security, a variety of answers were given. Thirty-five markets responded that having access to food of some kind meant being food secure. Twenty-eight markets responded that food security was having access to local and/or healthy food and nine markets gave responses that were consistent with the definition of community food security. This shows that a large portion of markets know food security concepts and at some level agree that farmers market security does align with food security. However, the way in which farmers markets prioritize the importance of food security differs. In most cases the needs of the farmers override the needs of low-income individuals. This finding validates the need for more private subsidies (e.g. from grassroots organizations) so that the needs of vendors and consumers can be met. Themes emerged during the coding process that suggest there is a deep-rooted resistance among market managers to balance the needs of farmers and low-income individuals in West Virginia. Guthman et al. (2006), in a study examining the extent to which farmers markets address food security, and found similar findings with CSA and farmers market managers in California.

Also similar to Guthman et al. (2006), this study found connections between how well a market was established and the use of strategies to promote community food security. Generally speaking, farmers markets that are larger, well-established markets employ more strategies to improve community food security, specifically gleaning programs. These markets (e.g. Morgantown) are large, have a large number of vendors

used to attract more shoppers, have more revenue, and are overall more rooted. These qualities give them more leeway to try out different programs and/or methodologies in order to intersect with low-income individuals. Therefore, developing more viable and sustainable farmers markets in West Virginia would be necessary in solving this food insecurity conundrum (Schmit and Gómez, 2011; Markowitz, 2010).

A best practices guide to creating a viable farmers market in a rural community involves extensive planning, experience in management and marketing, and participation of stakeholders (vendors, residents, community government, and policymakers at the federal and state level) (Schmit and Gómez, 2011). These stakeholders are necessary in establishing an assembly of public and private contributors (Schmit and Gómez, 2011). Contributors need to be involved in the decision-making and planning process for developing a farmers market. In addition, having markets that are in a centralized location are more easily accessible (Schmit and Gómez, 2011). People are more likely to come to markets that are easily accessible to them and that they know about (i.e. are well advertised). Targeted vendor recruitment establishes enhanced product assortment, giving customers more variety in what they are buying (Schmit and Gómez, 2011). The use of newer technology, like EBT, credit card and debit card reader, is attractive to customers (Schmit and Gómez, 2011). New and improved market features and activities, such as live music and alternative transportation services that have been coordinated to go to the market will help to build well established markets (Schmit and Gómez, 2011).

Based on this research, Morgantown and Berkeley Springs farmers markets were found to have the largest, most robust gleaning programs in the state. These markets are well-established and have a variety of factors that make themselves and their gleaning

programs successful. In addition, the Morgantown Farmers Market Growers Association has a selective board of directors who are very careful in choosing farmers who can sell at the market. This fact speaks to how successful this market is, as it can choose which farmers can attend and sell products.

The Morgantown Farmers Market is located in downtown Morgantown near West Virginia University. The market formed in 2002 and is open on Saturdays from 8:30 to 12:00. This market partnered with Christian Help Inc. to establish the gleaning of food contributions. The partnership between the Morgantown Farmers Market and Christian Help has been going on for about four years (Howard, 2015). In order to start this relationship, Christian Help received a grant that provided money to purchase produce from the farmers market. Farmers will donate extra produce that they do not want, but most of the produce is purchased. Christian Help is located just blocks away from the farmers market. At the end of each market day, a volunteer from Christian Help comes to the farmers market and collects leftover produce from farmers who wish to sell or donate. The volunteers transport the produce to the Christian Help headquarters in downtown Morgantown. Produce is stored in their building, which has refrigeration, and handed out to individuals who come there to receive aid (Howard, 2015).

Berkeley Springs Farmers Market is located near the Virginia border and is a popular vacation destination. The market formed in 2000 and is open on Thursdays from 2:00 to 5:00. Most of the customers for this market are traveling from the Washington D.C. Metro Area. Every vendor donates leftovers to The Starting Point Soup Kitchen and Resource Center. The Starting Point Soup Kitchen is located in close proximity to the farmers market. At the end of each market, a volunteer from Starting Point comes to

the market and collects produce from each farmer who is willing to donate. Produce is taken back to the soup kitchen to be used for prepared meals or is distributed to individuals to take home. The Starting Point Soup Kitchen opened 11 years ago and the formal gleaning program with Berkeley Springs has been in existence for the past 4 years (Morris, 2015). At the gleaning programs inception, the kitchen was already in place, so there were no special purchases or money needed to get the gleaning program with the farmers market going.

Gleaning programs are not the same at every market. However, there are two essential components that will help create a great gleaning program at any market. The researcher contacted Christian Help Inc. in Morgantown WV (Howard, 2015) and Starting Point Kitchen in Berkeley Springs WV (Morris, 2015) and spoke to the individuals responsible for their respective gleaning programs. One important piece of advice provided by Howard (2015) and Morris (2015) is for the emergency food provider to create a positive relationship with market managers and local farmers. These markets and the emergency food system will need to work together and devise a plan that fits both parties. The other essential component is for the emergency food provider to be open-minded about the product and quantity they are receiving. For example the food pantry or soup kitchen may receive five grocery carts of food and will have to freeze or can the food so that it does not go bad (Morris, 2015). This may be possible for a soup kitchen that has the appropriate freezing and/or canning facilities but is not likely to work for a food pantry that may have no kitchen available for such activities.

As seen above in table 7, markets that had only an unofficial gleaning program had a higher percentage of “other” programs (50%) than markets with official gleaning

programs (45%). Perhaps markets with unofficial gleaning programs have put all their efforts into these other programs, leaving fewer resources to develop an official gleaning program. Or, the barriers already discussed that make it difficult for farmers markets to work with food pantries and soup kitchens may be too hard to overcome, while some of the other programs such as children's vouchers or cooking classes may be easier to undertake by a less well-established farmers market.

A key finding that echoes the work by Guthman et al. (2006) is that farmers markets do not perceive themselves as vital vectors in increasing food security, as they expressed more concern with the sustainability of their markets than with increasing food security in their communities. However, 71 out of 72 markets interviewed did employ at least one program (WIC, SNAP, SFMNP, gleaning, etc.) as a way to serve low-income populations. This shows that there is interest in merging the goals of farmers-market security with food security; however, market managers voiced frustration in trying to balance the needs of farmers and low-income customers at their markets. "Most of the farmers are smaller growers and are trying to cover their own costs and make a living" (manager from rural county). Trying to increase access via the use of programs like gleaning at the market "is just not attractive to them" (manager from urban county). The struggle to balance farmers-market security and food security is very real. Meeting these goals requires public and private subsidies (Markowitz, 2010). Most markets accept public subsidies like SNAP, WIC and SFMNP vouchers. However, more private subsidies, such as grants from non-profit organizations and grassroots efforts are crucial in assisting farmers markets to better serve low-income populations (Markowitz, 2010).

One West Virginia farmers market received grant money from a local non-profit to build raised beds for three low-income families. The families were taught how to garden and were able to eat the produce grown in the garden. Any excess was donated to a local food pantry. Another farmers market used grant money from a non-profit to purchase an EBT machine so that they could accept SNAP. These examples illustrate how private subsidies can make a difference in improving food security at farmers markets in West Virginia.

The Appalachian Foodshed Project (2015) provides a great example of a public institution (USDA) stimulating the creation of alternative institutions through “community food security enhancement grants.” Some of the enhancement grant money went to the West Virginia Farmers Market Association (WVFMA) who is administering a pilot gleaning program. The WVFMA gave mini community food security enhancement grants to farmers markets in four locations across the state with the purpose of increasing community food security by connecting farmers markets with an emergency food provider in their community. The grants require farmers markets to collect data on how much poundage of food is donated, as well as the value of that food. In addition, the food pantries are required to report how many families receive the food donated by the farmers market. The grants are used to help markets establish their gleaning program by helping them with equipment and materials they need (like for a donation station) or with funds to pay for gas for a volunteer to drive the produce to the food pantry or for publicity.

The emergency food system is based on charity and donations (Coleman-Jensen et al., 2014; Companion, 2010; Tiehen, 2002), so why not farmers or farmers markets

too. Farmers markets could seek grants or other funds to subsidize their own operations so they could be less focused on their own survival and free up resources for programs geared towards the food insecure in their communities. Subsidies to farmers who are growing healthy food and providing it to food pantries or soup kitchens or other outlets aimed at low-income households could help farmers make a living while also providing “leftovers” for the emergency food system. Grants, donations, or other forms of subsidies from public or non-profit organizations and grassroots efforts have the potential to make an impact on farmer and farmers market viability as well as on how food pantries and soup kitchens can work with farmers markets to improve community food security.

Children’s vouchers were the number one “other” method used at farmers markets. These vouchers represent another form of currency that was used for children to get fresh produce. Perhaps alternative currencies for farmers markets and emergency food agencies could be used to create benefits, including improved access to healthy food by lower-income populations. Several communities in the US use alternative currencies such as BerkShares (Berkshares, Inc., 2015), Bay Bucks (Bay Bucks, 2015) and Davis Dollars (Davis Dollars, 2015) as a way to keep money recirculating in the local economy. These local currencies are only useable among local businesses who have agreed to accept them, such as the children’s vouchers that allowed the children to only shop at the farmers market with their “alternative currency.” Another unique example of an alternative currency is time-banking (TimeBank, 2015) where people exchange services and skills for time. This concept can be thought of as a circle of giving or a “sharing economy”. One hour of service is worth 1 time credit. For example, Mary wants to learn to garden so she gets a 1-hour gardening lesson from Joe. Joe receives 1 time-share for

teaching Mary to garden. Joe's time share can be used in exchange for other services or skills within his Time Bank community. At a farmers market, vendors could exchange produce for services and skills from customers. Similarly, at an emergency food agency individuals could exchange their skills, services, or time for food. A community garden provides an example where individuals could give their time to garden in exchange for produce from that garden. Time-banking or a "sharing economy" finds value in every member as there is an equal value placed on all skills and services, as they are all important contributions to the community (TimeBank, 2015). Like the children's vouchers, using time-sharing or other alternative currencies could play a role in farmers markets, food pantries, and other local businesses improving community food security in their locality.

### **Barriers for gleaning programs and Food Hubs**

This study found four main thematic categories of barriers that prevent farmers from donating produce to a hunger related organization: not enough leftovers, logistics of getting produce to the pantry, difficulties in dealing with the pantries or soup kitchens, and farmers trying to make a living. The largest barrier for farmers to donate leftover produce was simply "not having enough excess food to donate". In order to increase the likelihood of donation among farmers, farmers need to start producing on a larger scale. One option that would give farmers more of an incentive to grow on a larger scale is food hubs. Regional food hubs are defined on their functions and outcomes, as opposed to a particular business structure (Barham et al., 2012).

A regional food hub is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand. (Barham et al., 2012, p.4)



Food hubs offer small to mid-sized farmers looking to scale up production, among other benefits, a combination of production, distribution, and marketing services (Barham et al., 2012). This would allow farmers to gain entry into new markets that were previously inaccessible (Barham et al., 2012). Food hubs can help with the issue of not having enough leftovers to donate to a food pantry because food hubs would likely have leftovers or seconds of lower quality that could be donated or sold at a discount to food banks, food pantries or soup kitchens.

Logistics associated with donating produce to the emergency food system was another popular response regarding barriers to interacting with local hunger relief organizations. Logistics include time, effort, and coordination of getting produce to a pantry or soup kitchen. A food hub, again could be part of the solution as it would have the personnel and infrastructure best suited for implementing a relationship with an emergency food provider. The hub would be responsible for coordinating the logistics of the donation via a paid employee, thus removing the burden from the farmer, farmers market manager and the emergency food system.

Another solution to improve logistics would be better communication and coordination between farmers and emergency food system partners. Better communication between food pantries and farmers markets would help to ease this difficulty by establishing a schedule and who is responsible for certain tasks, such as pick up of produce (Maine Farmer's Market, 2015; Reany n.d). Volunteers may be helpful in improving communication between the two parties and taking on the responsibilities, such as produce pick up and drop off. Farmers market managers could call or reach out to a local food pantry or soup kitchen and ask if they would like to start a gleaning

program together or vice versa. More research should be conducted to understand logistics issues and find best practices for overcoming them.

Several markets cited difficulties with pantries, including hours of operation and lack of refrigeration, as barriers to donate. These findings are congruent with those of Companion (2010), who found that due to lack of refrigeration, the top items pantries have on stock are processed carbohydrates and canned goods. As stated earlier, more private grants and subsidies could be given to food pantries to upgrade their facilities, making them more equipped for produce donations (Markowitz, 2010).

Another barrier identified through the interview process was that farmers are not able to afford to give produce away and they instead keep it for their personal use. This speaks to the fact that West Virginia farmers who are selling produce through farmers markets are not making a livable wage. Perhaps, in an attempt to remain competitive, farmers are not paying themselves or their workers a decent wage while at the same time they are trying to make their produce affordable to a broader range of customers. As a way to cut costs, they eat produce that does not sell at the market. A food hub may provide a way for more small farmers to make a livable wage. According to Barham et al. (2012) farmers are challenged by the lack of distribution and processing infrastructure that is capable for a food hub. Farmers lack the volume and consistent supply necessary to attract retail and foodservice customers (Barham et al, 2012). Producers, typically lack the capital and/or access to facilities that would allow them to store, process, and distribute their product. Furthermore, due to lack of staff or experience or time, producers are unable to devote the attention needed to develop a successful operation (Barham et al., 2012). Lastly, there is a high transaction cost for wholesalers to purchase

products from several different farmers, so instead they may purchase from one distributor such as a food hub (Barham et al., 2012). A food hub has the infrastructure and staff to address all the problems farmers cannot (Barham et al., 2012). If food hubs make it easier for farmers to earn a livable wage, then they may be better able to donate leftover produce instead of using it for personal consumption.

In addition to providing solutions to help farmers, a food hub could also provide solutions that help the emergency food system. The emergency food system, as cited in the interview process, has many barriers to access including hours of operation and lack of refrigeration. These barriers make it difficult to coordinate any sort of communication or partnership between the emergency food system and farmers markets. Food hubs would have the infrastructure and personnel that would allow it to be open during regular business hours, thus alleviating the volunteer workers of the emergency food system from the burden and responsibility associated with gleaning programs with farmers markets (Barham et al., 2012). Also, regular hours of operation at the food hub may result in more donations, as people (farmers, gardeners, recipients of the gleaning programs) can swing by at their own convenience.

Food hubs have the ability to improve community food security and provide a space not only for farmers but for the community as a whole. For the producers, food hubs provide wholesale markets, advocacy, business support services, cold storage, direct-to-consumer sales, processing facilities, and technical training (Bloustein, 2012). Food hubs can be a center for advocacy for farmers, processors, and food business owners by creating networks between people with similar interests and providing a

meeting space (Bloustein, 2012). Technical training can include growing techniques for farmers, food processing training, and culinary training.

For the community, a food hub can provide advocacy, alternative currency, a community kitchen, composting, nutrition or cooking classes, gardening demonstrations, a food bank, gleaning, and/or restaurants (Bloustein, 2012). A food hub can provide a community meeting place with a focus on food and food-related issues like food security or social justice. They can also provide increased access for low-income individuals by accepting SNAP or WIC, or they can create their own currency, similar to those already mentioned. A food hub could be used to aggregate, store, and distribute donated foods for the emergency food system (Bloustein, 2012). This facility already has the infrastructure and would take the burden off the mostly volunteer-run emergency food system. In addition, food hubs could source, store, and distribute inexpensive staples (such as rice and beans) that are important non-perishable items distributed by food pantries or served in soup kitchens. Food hubs, thus, can provide a way for those who have been exclusively working in the emergency food system and those who have been working to promote alternative or local food systems to come together to build true community food security.

Another barrier has to do with the value of gleaning to farmers. Donating leftover produce, if there are leftovers, can qualify for tax deductions under the Good Samaritan Hunger Relief Tax Incentive Program (Van Zuiden, 2012). This program allows farmers and small business owners to receive a tax deduction for donating food to food banks, pantries, and homeless shelters. The value of the deduction allowed under this program is either fair market value - the price of the food at the time of donation - or two times the

cost, whichever is less (Maine Farmer's Market, 2015). This option will require farmers to keep track of what they are donating and its value (Maine Farmer's Market, 2015).

There is a need to educate farmers about this option, as market managers indicated during the interview process that many farmers might be unaware that they can receive tax deductions for their donations.

### **Perceptions and Attitudes related to Hunger and Food Insecurity**

Parallel to a study by Edlefsen and Olson (2002) that examined perceptions of emergency feeding program volunteers on the topic of hunger, this study found similar views among farmers market managers in West Virginia. The majority (68 out of 72) of market managers said that hunger was a problem in their community caused mostly by too few good paying jobs, drug abuse, and large populations living on fixed incomes. All of these responses are symptoms or causes of poverty (Shoaf et al., 2012). Hunger is a symptom of food insecurity (TFBN, 2015; Shoaf et al., 2012). Food insecurity is a much broader term that captures hunger and the coping mechanisms that households use to avoid hunger and is a symptom of poverty (TFBN, 2015; Shoaf et al., 2012). This study examined how farmers markets can be involved in the emergency food system to improve community food security, although the emergency food system only addresses symptoms of food insecurity and not the root cause of poverty.

Fifty-three percent of managers expressed understanding of the struggle in obtaining a good paying job. One manager states, "Yes, I believe hunger is a problem in every community. In our community there are low-income people but there are also struggling middle-class individuals and families. These individuals do not meet the guidelines to receive government assistance. In general there are simply not enough good

paying jobs” (manager from rural county). Having compassion and understanding for people is essential for creating a positive farmers market. Several studies have identified residential segregation, cultural barriers, and negative perceptions of low-income individuals shopping at farmers markets as barriers to access these markets (Wetherill and Gray, 2015; Briggs et al. 2010). The findings in this study demonstrate that farmers market managers did not see how their market could address a hunger problem in their communities. More research on the topic of barriers and perceptions of low-income individuals trying to access farmers markets in West Virginia would help to better understand this finding.

Conversely, a small portion of market managers felt that hunger was not an issue in their community because government assistance is available to alleviate hunger. The rationale for this perception may be that when a market manager came into contact with someone who appeared to be an able-bodied adult, they looked for an explanation as to why they are receiving government aid. One of the ways market managers, similar to emergency feeding program volunteers (Edlefsen and Olson, 2002), explained an individual’s lack of employment was that being a beneficiary of aid (SNAP, WIC, and charitable) produced reliance and diminished their motivation to work. “There is a mentality of people living off the government, where parents do not get up and go to work but instead get a pay check from the government, which is then passed down to their children and so on” (manager from rural county). This finding may be of value to any organization (faith-based, civic, educational, nonprofit) that sends their members to volunteer for the emergency food system, assuming that their experience will broaden their understanding of poverty and hunger (Edlefsen and Olson, 2002). More education

on food security, hunger and poverty could greatly improve the experiences of volunteers in the emergency food system as well as at farmers markets. Because so many emergency food system agencies are faith-based, more research focused on this connection of faith-based organizations to the emergency food system would greatly benefit the current conversation. Farmers markets, on the other hand, are rarely founded by faith-based organizations so there may be cultural and value differences that need to be taken into account. Any attempts to improve communication between the emergency food system and farmers markets should help these two groups, who are both concerned about community food security in their own ways, work together for the overall benefit of their organizations and their communities.

## **Chapter 6: Conclusions and Implications**

### **Limitations and future research**

For this study 72 out of 90 farmers market managers were interviewed. Repeated attempts were made to reach the 18 markets not included in this study. Ten of the farmers market managers either declined an interview or a previous market manager was able to confirm that the market was no longer in operation. The researcher consulted with the WVFMA regarding the other eight markets, and was able to confirm that those markets were no longer in existence or that those markets did not have reliable managers who could be contacted. It is possible that there are characteristics of those farmers markets or farmers market managers who were not interviewed that make them especially important to talk to regarding farmers markets and their relationship to the emergency food system, however, there is no way to know if this is the case.

Due to time constraints, only two representatives from the West Virginia emergency food system were interviewed for this study, and they were not formally interviewed but called for information regarding two of the current official gleaning programs that are in place (Howard, 2015 and Morris, 2015). Interviewing managers of food pantries and soup kitchens to get their point of view on working with farmers markets would be an important subject of future research.

Some farmers markets were using innovative programs aimed at children to help families in their communities, as explained above. Although these programs were not necessarily aimed at low-income families or those using the services of the emergency food system, they did encourage children to shop at and/or learn about the farmers



market. Due to a lack of knowledge surrounding this relatively new idea, more research needs to be conducted on the impacts and implications of these “children’s vouchers” programs at farmers markets.

## **Conclusions**

Few farmers market managers perceive their markets as necessary agents in improving community food security, yet nearly half recognize the potential for their markets to contribute to food security in their region. Most managers justify their lack of contribution currently by emphasizing the needs of their vendors. These findings demonstrate that while there is interest, more needs to be done to merge the goals of community food security and farmers market security.

There are several ways to merge the goals of community food security with farmers markets instead of balancing the two on opposing sides of the scale. First, private subsidies could be used to help establish and maintain support programs. The successful but limited application of private subsidies to farmers markets indicates the promise and potential for future research and application in this area. For example, private subsidies that help markets purchase new equipment (e.g. EBT machines) have improved low-income access to farmers markets. Second, well-established markets are more conducive to gleaning programs. Helping markets to grow and become more established would help to increase community food security through the employment of gleaning programs. Well-established markets are able to do this because they more than likely have met the needs of their farmers already and now can reach out to fulfilling other missions within their community. Best practices such as community involvement

from a variety of stakeholders, finding a convenient location, and excellent managing and marketing skills will help to create these markets.

This study documented market managers' perceptions of specific barriers to donating or selling leftover produce to emergency food systems. Different barriers require different strategies suited to combat their specific challenges, whether that be food hubs, better communication, or private or public subsidies. By having managers who are most familiar with the specific needs of their communities articulate the most significant barriers in their community, policy makers can create specific programs designed to trounce local barriers associated with gleaning. A community foundation is best suited for providing funding to non-profit organizations working in food security, gleaning, agriculture, etc., as they can provide funding, manage grants, and provide leadership to address specific community needs (Quilty, 2015).

Public funds have also been, and should continue to be, used to alleviate hunger and promote community food security. The U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA), through its Agriculture and Food Research Initiative (AFRI) Food Security Challenge Area provided grant funds to create the 5-year Appalachian Foodshed Project which funded this West Virginia study and the farmers market gleaning pilot program mentioned above, as well as provided funding for nine other community food security enhancement grants across the state worth over \$60,000. The goal of the AFRI Food Security Challenge Area is to increase the "availability and accessibility of safe and nutritious food" (AFRI, 2015) and thus could be a continued source of funding to improve food security. Another source of US government funds that would be appropriate to tap for starting or enhancing farmers market gleaning programs

is the NIFA Community Food Projects Competitive Grants Program (NIFA, 2015). The goals of this program are especially well aligned with those discussed here regarding improving community food security.

Farmers market managers in West Virginia have differing views of hunger. These differences illustrate the need for more education on food insecurity, hunger, and poverty. More research, specifically looking at best practices in educating individuals on this subject would greatly add to the current literature. In addition, more research should be conducted on the emergency food system and farmers markets that attempt to understand how the two communicate and how communication could be improved. Food hubs and their role in linking farmers markets and the emergency food system could greatly contribute to the current literature as well.

Gleaning programs may continue to be marginal, as these programs are trying to match up two systems that may not always fit together. Farmers markets and the emergency food system run on huge time constraints, with limited help. For farmers markets there are volunteers, farmers, and the market manager that may be available to help carry out the tasks associated with gleaning. The emergency food system is largely run by volunteers, thus making it difficult to coordinate schedules with farmers or farmers markets to gather produce or other donations. This study found an array of solutions that are being used by the alternative food movement and the emergency food system to promote community food security.

### **Academic Contribution**

This study demonstrates the importance of the intersection of farmers markets and the emergency food system to improve community food security in West Virginia.

Managers of farmers markets do not perceive their markets to be key actors in increasing food security, as they are more concerned with the sustainability of their markets. On the other hand, there is evidence that well-established farmers markets use more strategies to improve community food security and have robust gleaning programs. However, this research identified only 10 well-established markets in West Virginia. More research and outreach by non-profits and grassroots organizations will create more viable farmers markets that are more capable of reaching out and connecting to the emergency food system through the use of gleaning.

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## **APPENDIX A: Interview protocol and questionnaire used in farmers market manager interviews**

The Appalachian Foodshed Project (AFP) is using a foodshed concept to address issues of community food security in West Virginia and the Appalachian regions of North Carolina and Virginia. AFP aims to facilitate a network of organizations and individuals working to address issues of community development, economic viability, health, nutrition, food access, social justice, and agriculture. By working collaboratively, AFP hopes to build on the human and natural resources in the region to cultivate resilient food systems and vibrant, healthy communities.

The AFP is partnered with Dr. Bradley Wilson of WVU (Geography) to gather information relevant to how the local and emergency food systems work (community food security assessments). Once we understand the current flow of food from one place to another and all the steps in between, we plan on building a WVFoodLink Atlas, which will be a publicly accessible interactive map that will be available early 2015. The map will provide information on the emergency food system in WV counties (where pantries are located, what kinds of produce they may have available, etc.). It will be useful to individuals trying to find services, social workers, and researchers. (The database will include locations of emergency food assistance programs, numbers of people served and demographic information.)

AFP will fund gathering information from four regions (1) Barbour, Upshur, Randolph, (2) Kanawha, (3) Braxton, Calhoun, Clay, Gilmer, Roane, and (4) Fayette, Greenbrier, Monroe, Raleigh, and Summers counties, in addition to the counties from which Wilson had already gathered information (Monongalia, Marion, and Preston).

Questions for farmers market managers:

### **1. When did the farmers market form?**

- a. Why did it form?
- b. How did you end up working with this farmers market?
- c. What is the role of the farmers market in the community?
  - i. Do you have any volunteers that help you manage the market?
- d. Has it reached its potential? What are next steps?
- e. What are the goals of the farmers market?

### **2. Tell me about yourself/business/role...**

- i. How does that fit into the operation of the farmers market as a whole?

### **3. Who comes to shop at this market? What are the ages, income levels, education levels, family status, of the people who shop at your market?**

- a. Are there any groups/individuals who aren't coming to your market

- who you would like to see shop there?
  - b. Do you have any plans or programs for attracting them to your market?
  - c. If so Why? / If not why not?
  - d. Where do your customers come from?
  - e. What areas do your vendors travel from to attend this market?
- 4. What does “food security” mean to you?**
- i. Do farmers at your market accept WIC farmers market nutrition vouchers?
  - ii. Do farmers at your market accept SNAP benefits?
  - iii. Do farmers at your market accept Senior farmers market nutrition program vouchers?
  - iv. Are there any programs at your market that are targeted towards individuals or families that you believe might be food insecure or experience hunger on occasion?
  - v. Does your farmers market have any cooking demonstrations?
  - vi. Give out recipes or in other ways promote a healthy lifestyle?
- 5. Does your market donate or individual farmers at your market sell produce to hunger-related organizations (like a food pantry or soup kitchen)?**
- a. What organization? POC?
  - b. What are the biggest barriers or challenges that prevent your farmers market from selling or donating food to a local hunger-related organization?
- 6. As the local movement has grown, some have begun to criticize it as “elitist”, with expensive foods largely unaffordable for working people, seniors, and those on a fixed income. What do you think about this perception?**
- 7. Do you believe that hunger is a problem in your community?**

If they say yes, then ask what they think is the cause? (I wouldn't prompt them unless they say they don't know. Then you could ask: Do you think there are good jobs in your area that pay a living wage? Are there high numbers of elderly or disabled on fixed incomes? Do you believe there is a drug addiction problem in your community?)



## **Appendix B: Summarized responses to interview questions 1, 2, and 3**

### **1.) When did the farmers market form?**

0-4 years: 35%

5-9 years: 26%

10+ years: 39%

#### **a. Why did it form?**

78% said that there was a need of some kind in the community

22% said that they did not know why the market formed

#### **b. How did you end up working with this farmers market?**

48% - came from an agricultural background (vendor, 4-H, agricultural extension)

21% - Knew someone/Networks

19% - Had always been involved with the market

12% - retired and needed something to do

#### **c. What is the role of the farmers market in the community?**

1.) Community gathering point 42%

2.) Outlet for farmers to sell produce 45%

3.) Promote local, healthy foods 37%

4.) Provide community with access to local produce 32%

#### **i. Do you have any volunteers that help you manage the market?**

Yes: 71%

No: 39%

#### **d. Has it reached its potential? What are next steps?**

Yes: 12%

No: 88%

The top 3 “next steps” used by markets include increase the number of vendors, find a new location, and build a permanent structure to hold the market under.

#### **e. What are the goals of the farmers market?**

The top 5 goals used by markets are...

- 1.) Education/promote awareness
- 2.) Make farmers money
- 3.) Provide the community with access to local foods
- 4.) Keep market operating
- 5.) Promote and increase access to local foods

2.) Tell me about yourself/business/role...

How does that fit into the operation of the farmers market as a whole?

Managers described their roles and responsibilities as advertisement, set-up/clean-up, bookkeeping, vendor/customer relations, quality control, managing, rule enforcer, attend meetings, research new opportunities, write grants, and overall make sure the market runs smoothly.

3.) Who comes to shop at this market? What are the ages, income levels, education levels, family status, of the people who shop at your market?

Seniors/elderly:	62%
Middle-aged:	12%
Young families:	8%
Everyone/good mix of demographics:	7%
WIC recipients:	3%
Low-income individuals:	3%
Young people:	1%
"Foodies":	1%

a. Are there any groups/individuals who aren't coming to your market who you would like to see shop there?

Younger people:	18%
None:	15%
Low-income people:	14%
Young families:	8%
More people in general:	8%
Professional/working class	8%
SNAP recipients:	6%
Children with parents:	3%
Disabled people:	1%
Middle-aged:	1%

b. Do you have any plans or programs for attracting them to your market?

Yes: 68%

No: 32%

Programs included cooking/canning demonstrations, SNAP, WIC, children's vouchers, transportation to and from the market, and advertisement through social media outlets.

c. Where do your customers come from?

Local community: 84%

Vacations/town guests: 10%

Maryland 6%

d. What areas do your vendors travel from to attend the market?

Local community: 72%

8-10 mile radius around market: 1%

25 mile radius around market: 3%

50 mile radius around market: 14%

100 mile radius around market: 3%

250 mile radius around market: 1%